



# INTERNATIONAL SYMPOSIUM ON BUSINESS AND ECONOMICS

## Proceedings Book

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# **INTERNATIONAL SYMPOSIUM ON BUSINESS AND ECONOMICS**

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## FOREWORD

*Knowledge creation is a long and difficult process. The works produced by the thinkers and researchers of old through this process contain much valuable information. People who want to obtain information, conduct research, and find works on any subject today can refer to these previous works. Then, they can develop these works through their thought filters. In this manner, information grows by expanding the common knowledge pool. Sharing the information obtained through the knowledge creation process is also very important. Sharing first starts in the immediate community of researchers in environments such as conferences, symposia, and panels.*

*In this context, International Symposium on Business and Economics (ISBE 2018), one of the international symposiums of the Global Science Institute (GSI) that was organized in cooperation with the Mediterranean University in Podgorica, Montenegro, from 5 to 8 September 2018, provided an important environment for interdisciplinary sharing and partnership.*

*This symposium featured a wide range of presentations on topics ranging from blockchain technology to distance education and from female entrepreneurship to the banking sector, all of which proved very useful to the participants.*

*The fact that international symposiums organized by the Global Science Institute (GSI) bring together academicians, researchers, and practitioners from different countries and different disciplines in the same scientific sharing environment is very important in the processes of knowledge creation and dissemination.*

*I hope that this information sharing environment will expand and grow in the future.*

*Prof. Dr Verda Canbey-Özgüler*

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**INTERNATIONAL SYMPOSIUM ON BUSINESS AND  
ECONOMICS**

## **The New Frontiers of E-Commerce Through Digital Currencies and Online Transactions**

Massimiliano Minaudo<sup>1</sup>

### **Abstract**

Following the birth of the digital currency, it was possible to make transactions in a new and innovative way thanks to the introduction and release of digital coins that favoured free trade and sale through the Internet, allowing anonymity (which is not always good in exchanges and commercial transactions in general) The cryptocurrency and therefore the Bitcoin system has however some dark or obscure sides to the user, moreover, is technically related to non-trivial operations some of which are known as "forcing brute" to crack encrypted data along with "mining" operations on hardware resources and without consent.

The purpose of my research is to show how to avoid the probability that the central processing unit of a computer or any computer may be exposed to some sort of secret and unauthorised exploitation.

With specific tools, however, it is possible to monitor and record any executions or processing not required during the commercial activity.

**Keywords:** Currency, Digital, Transactions.

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## 1. INTRODUCTION

The problem of online transactions and security is today undoubtedly a “*Rerum Novarum*” that attracts the attention of all the economists and computer scientists of the world and that, however, can’t go unnoticed.

Being a regular teacher of the Italian school and dealing primarily with training, even against colleagues, after specialization as an expert teacher in New Technologies, thanks to the continuous research carried out by me, I discovered that the digital currency has immediately captured the attention of many and also mine, also because beyond any possible rumour there is a probable truth to filter, analyse and understand so much that I believe I can give my sincere and scientific contribution and a right knowledge of the phenomenon to the students, to investors and unsuspecting web surfers.

**Figure 1:** Cryptocurrency.



**Source:** <https://www.ildenaro.it/wp-content/uploads/2017/11/bitcoin-conviene-investire-1.jpg>.

After its appearance the Bitcoin has represented the emblem of the first electronic money in the world (currently there are in fact different types of digital currency or cryptocurrency whose fundamental/new element consists in the so-called "blockchain" or public register, that is, a system of validation of the exchange of currency, without authority in charge of control, relegated sic et simpliciter to the computer programmed to confirm the validity of the transaction carried out preserving its historical memory, in these cases there is talk of "changes of ownership"), on the contrary, it represents a form innovative long-term investment that can't go unnoticed despite the highs and lows (both good and bad), certainly, quite significant at present.

We are talking about a digital currency which has undergone a major change, important and relevant, so that now the investments and the way of conceiving the economy, have contributed to the transformation of financial history, characterised by crisis and instability, therefore, the desire to find as much as possible new intermediation tools.

De facto, this currency, precisely, the Bitcoin can be considered (and such is its configuration) as the main cryptocurrency of the whole world, despite the mystery that still hides around its debut and its history.

The aim of the research is to make more clarity, here, about the history from its origins to today, ergo, understand the phenomenon and provide an itinerary the main means to face the future carefully bringing to light the dark side that concerns it ("the dark side") without running into unprotected, fraudulent, hidden transactions.

## **2. METHODOLOGY**

Observation of the phenomenon, a survey of the population (survey), single case study, research, meta-analysis.

## **3. SHORT HISTORICAL EXCURSUS AND OPERATION**

During August of 2008, the domain name "bitcoin.org" was born and just two months later a document known as "peer-to-peer electronic payment system" based on Bitcoin (which was distributed on an encryption mailing list).

Behind the whole project there seems to be a somewhat enigmatic figure recognisable in the creator of this infamous or blessed Bitcoin known as "Satoshi Nakamoto", it is perhaps a name that is the result of fantasy because the identity of this individual is still shrouded in total mystery.

In 2009, exactly, on January 3, 30,000 lines of code were drawn that marked the beginning of the era of digital money which, by definition, is known by the name of "Bitcoin".

The digital currency works by means of an autonomous software, during the execution of the program it is in a certain sense taken out or extracted by the individuals who look for the Bitcoin according to a system that places its roots in a sort of lottery, without a central bank or an institution which acts as an intermediary and a database is distributed between the various user machines (called "nodes"), all based on a peer-to-peer network of open source nature.

According to some, since the dawn immediately caused a great sensation to the point that, this currency, compared to the dollar was worth 0.0007639 dollars (over the next twenty years it is even assumed the release of 21 million coins).

To monitor it in real time it is suggested to use a Bitcoin euro converter, that is, the following site from which, among other things, you can also view/obtain useful and freely available graphs like the one enclosed here, alternatively:

<b>Indice del Dollaro</b>	94,47	+0,20	+0,21%
<b>Euro Index</b>	95,40	-0,02	-0,02%
<b>Future Bitcoin</b>	6.695,0	+35,0	+0,53%

Published on Investing.com, 17/Jul/2018 - 13:14:35 GMT, Powered by TradingView.

**Future Bitcoin CME, (CFD):BTC, 15**



**Source:** <https://it.investing.com/>; <https://invst.ly/804-v>; [https://it.coinmill.com/BTC\\_calculator.html](https://it.coinmill.com/BTC_calculator.html) or <https://www.meteofinanza.com/trading-bitcoin/>.

Bitcoins have a volatile asset (at this time, 1 Bitcoin is equivalent to € 5,727.85) and the quotations are subject to rapid changes (from a few hours to a few minutes), in substance, they symbolize the ideal investment to such an extent that speaks of a new gold rush which, however, due to instability and risks, is still struggling to rise by means of large-scale payment (even if the revenues appear positive / increasing).

The danger to be clarified and further highlighted is also that represented by the creation of new alias "mining" coins which, often, corresponds to an operation known as "brute forcing", better, consists in a specific algorithm able to perform checks to find all the solutions to be able to insert data (block header) whose double hash used for cryptography allows to recreate the input / output values (input / output), then, forcing a system without requiring any consent (or in a few cases with the active participation of some users who allow, perhaps without full knowledge, the exploitation of the CPU of their computer).

#### **4. CONCLUSION**

Since the sale and purchase of the Web allows, therefore, to remain anonymous and, at the same time, reduce the exposure to possible confiscation by the police, there is currently no real guarantee on investment.

We are dealing with a high-risk asset, the instruments currently available do not protect investors who may risk seeing their own financial (and even virtual) portfolio or "wallet" emptied due to unintended precautions or well-founded and not yet disclosed information.

There are several concurrent factors that should not be underestimated, rather, to be analysed in a systematic way to build and direct the actors involved in the right direction, considering that the encryption does not constitute any guarantee (including privacy), especially without appropriate precautions, It is also essential to start providing adequate protection for transactions by applying, for example, targeted and precise "Add-ons" in their browsers, such as: "miner Block" (for those who want to block cryptocurrency miners based on requests / script) or "No Coin" (to prevent the unauthorized use of user resources), but this is only the beginning of our arduous undertaking.

#### **REFERENCES**

- Capoti, D.; Colacchi, E. & Maggioni, M. (2015) Bitcoin revolution: La moneta digitale alla conquista del mondo, Milano: Hoepli.
- Pepe, S. (2014) Investire Bitcoin, Palermo: Flaccovio, D.
- Birindelli, C., Coco, G. (2018) Addio vecchie monete: ...è l'ora di Bitcoin, Treviglio: Facco, L., Goware.
- Tonelli, S. (2017), Dall'oro al bitcoin, Youcanprint Self-Publishing.
- Caetano, R. (2016), Bitcoin, Milano: Apogeo.
- Pagano, M. (2017) Blockchain. Cyberwar e strumenti di intelligence, Viterbo: Nuovi Equilibri.
- Amato, M. & Fantacci, L. (2016) Per un pugno di bitcoin: rischi e opportunità delle monete digitali, Milano: UBE.
- Florindi, E. (2016) Deep web e bitcoin: Vizi privati e pubbliche virtù della navigazione in rete, Reggio Emilia: Imprimatur.

## **Specification of a Hedonic Model for Rental Apartment Buildings in Berlin**

Anne Sanftenberg<sup>1</sup>

### **Abstract**

This paper focuses on the specification and estimation of a multiple-regression model, a so-called hedonic model, for pricing apartment buildings in Berlin. This method assesses estates or properties according to their intrinsic (inner) values and derives the value or price from its attributes rather than from the estate itself. With the hedonic model, the price of residential property can be segmented into its various properties in order to subsequently assign individual prices to these properties. In addition to selecting the target size, the specification of a hedonic model also requires ascertaining the price-determining independent variables, choosing the correct functional form and defining the sub-market to be examined.

However, hedonic model theory gives little indication of the model specification. Therefore, this paper provides various approaches to identify the relevant contributing factors for the target size purchase price per square meter for multiple-family dwellings, and analogously, finds the most optimal functional form (among other things) via an iterative path of model estimation. On this basis, a hedonic model is estimated by the model assumptions and with a high explanatory value for the property market. For the Berlin submarket, actual transaction prices throughout 20 years are examined.

The result is a classic hedonic price function with the profit and price-relevant characteristics, which can be used to explain the price development, for predicted values or real estate valuations.

**Keywords:** Econometrics, Investment, Statistics, Real estate, Residential buildings.

### **1. INTRODUCTION**

The hedonic method or hedonic regression is used as an instrument for estimating and ascertaining values or for determining the demand for commodities that are not traded on the market (Herath, & Maier, 2010, p. 1). This valuation method evaluates commodities or properties according to their intrinsic (inner) values and does not derive the value from the estate itself, rather from its attributes. With the hedonic model, the price of residential property can be segmented into its various characteristics in order subsequently assign individual prices to these characteristics (Fahrländer, 2007: 17; Day, 2001: 25; Haas, 2010: 24). The goal is to build a highly explanatory model and depict the market for rental apartment buildings in Berlin with the essential value or price drivers. In addition to

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defining the submarket to be examined, the specification of a hedonic model also requires selecting the target size, identifying the price-determining independent variables and choosing the correct functional form. Hedonic theory (Malpezzi, 2002: 20) does not indicate the type of price function. This paper presents a plausible approach for specifying a hedonic model to value rental apartment buildings.

## **2. LITERATURE REVIEW**

There is no consensus on when and where the theory of hedonic price determination originated. Colwell and Dilmore (1999) state that the initial regression analyses were created by Haas (1922) and Wallace (1926) and used for valuating agricultural land. Griliches (1991) claims it originated with Waugh (1928) within the scope of agricultural land valuations via regression analysis. From an economic perspective, the method of hedonic prices is based on Lancaster's (1966) consumption theory, in which the individual characteristics of an asset are beneficial. On the microeconomic level, hedonic price theory was further developed by Rosen (1974). Thus, Lancaster (1966) and Rosen (1974) made important contributions to the hedonic price theory. With Lancaster, there is an implicit linear correlation between the price of the asset and the characteristics the asset contains. Rosen's model, on the other hand, assumes a non-linear correlation between the price of the asset and its respective features. Recently, hedonic models have again become increasingly important for the analysis and research of housing markets. The focus of the research is primarily on residential submarkets for apartment ownership (Thanasi, 2016; Kryvobokov & Wilhelmsson, 2007; Maurer et al. 2004; Jim & Chen, 2009; Ayan & Erkin, 2014; Berry et al. 2003, Bohl et al. 2012), for single-family dwellings (Sirmans & Macpherson, 2003; Chiodo et al. 2009), semi-detached ('duplex') and terraced houses ('townhouses') and for undeveloped properties (Thomsen, 2014; Zeißler, 2012). Here, the actual purchase prices and rental prices are paramount (Thomson, 1999). International research indicates that the scope of application possibilities of hedonic models is very diverse. In addition to the index construction and analysis of individual or multiple contributing factors on target purchase price or rent, hedonic models are used for the valuation of real estate, the identification of substantive or geographic submarkets or for demand analysis of specific building characteristics (Herath & Maier, 2010; Sopranzetti, 2010, 2015). In Germany, the analyses focus largely on identifying the price determinants using regression-analytical methods and subsequently build upon the use of these results, among other things, for the development of price indices.

With regard to real estate valuation, regression-analytical methods have also been recognised in Germany since the 1970s (Uhde, 1982; Ziegenbein, 1977). Thus far, however, there have been hardly any hedonic analyses for residential investment properties such as multi-family dwellings. This is due to both the significantly greater heterogeneity and the lack of availability of adequate data. This research deficit is addressed later in this paper.



### **3. DATA SET: SELECTION OF THE SUBMARKET AND TARGET SIZE**

The data is based on the automatic purchase price compilation of the Committee of Valuation Experts in Berlin [*Gutachterausschuss Berlin*]. According to §193 of the German Building Code [*BauGB*], the primary duties of the Committee of Valuation Experts include the collection, administration and analysis of purchase prices. Since purchase prices for apartment buildings are usually determined on a price-per-square-metre basis or as a multiple of the annual rent, in the hedonic model, the purchase price per square meter serves as the target size. For the selected submarket of Berlin, the Committee of Valuation Experts provided a total of 9,260 purchase prices per square metre for rental apartment buildings for the period from 1990 to 2013. Only individual transactions in direct property acquisition (asset deal) were analysed. The average purchase price per square metre for this period is approximately EUR 860, with nearly 90% of the purchase prices having a maximum value of EUR 1,500 per sqm. All purchase prices of the data set are described in greater detail with additional survey features and their respective characteristic values. The survey features can be divided into four categories. The first is used to uniquely identify the respective purchase case in the automatic purchase price compilation and contains, among other things, the transaction date. The second category describes the exact location of the respective property. This includes the exact property address with the street number in the respective district and subdivision.

Additionally, variables such as the urban residential area, the type of construction typical for the area, the standard land value, the typical floor space index underlying the standard land value, the typical and price-determining usage or the block location of the property are described. The third category depicts the individual property characteristics. Variables such as the year of construction, living space, floor space, number of residential units, the condition of the property, any existing property subsidies, but also the buyer and the sales group characterise the respective property. The last category measures the earning power of residential buildings, which includes assessing the net cold rent, the commercial rental income and the income value of the property.

### **4. MODEL ESTIMATION: SELECTION OF THE FUNCTIONAL FORM AND EXPLANATORY VARIABLES**

The target size in the hedonic model is the purchase price per square metre of a rental apartment building. The respective features of the individual survey characteristics are not assessed in the data set for each purchase case. In the case of missing characteristics, the corresponding purchase case is not included in the regression. Accordingly, in order to keep the data set as large as possible, one must consider whether to omit or use the explanatory variable for the estimation. Survey features with more than 80% missing characteristics were

removed from the data set. In all other cases with missing characteristics, the explanatory variable was retained, and the respective purchase case was excluded for the regression. The achievable or contractually agreed rent is crucial for determining the price of investment properties. Since in approximately 55% of the cases, the net cold rent was not indicated, which already led to a significant reduction of the data set. On this basis and taking into account all other necessary explanatory variables, a total of 3,401 purchase prices with an average purchase price per square metre of EUR 826 are available for the regression of the apartment buildings for the period from 1993 to 2013.

**Table 1.** Purchase Price Per Square Metre 1993–2013 (complete data set)

Quantity	Mean	Standard Deviation	Median	Mean absolute deviation
3,401	€826	€443	€738	€670

**Source:** Own calculations

Table 1 shows an asymmetrical, right-skewed distribution (Auer & Rottmann, 2011, p. 44); the purchase prices are not normally distributed. This is also not a mandatory prerequisite (Schendera, 2008, p. 134), but it is more favourable. The skew of the data distribution can be significantly reduced by first aid transformation (Stahel, 2008, p. 66) with the natural logarithm, which also has a positive effect on the distribution of the residuals (Stahel, 2008, p. 64). In the coefficients, initially the model remains additive, yet the effect is multiplicative, i.e. the purchase price changes proportionally. The transformation of the purchase price is statistically explicable and also confirms the hedonic model theory, according to which the price is not linearly derivable.

The variables were selected under consideration of the available data and the value-forming parameters (prominent in land-value determinations) for apartment buildings. The aim is not to build a causal model, rather use the available influencing variables to estimate a practical and meaningful model. Therefore, the previously mentioned survey features (explanatory variables) are described, analysed and initially selected about their relevance. The specification of the functional form of the hedonic model occurs in parallel during the analysis of the existing survey features in the data set and the model construction.

The explanatory variables with their characteristic values can be in quantitative (metric scaled) or qualitative form (nominal or maximum ordinal scale (Fahrmeir et al. 2011, p. 19). Qualitative characteristics describe various states or characterise attributes verbally. For the regression, only metric scaled variables are considered (Backhaus, 2006: 113), therefore qualitative features are to be quantified by transformation into dummy variables (Auer & Rottmann, 2011: 11). The analysis of the existing data material occurs using a simple

correlation analysis or using simple relational studies about the factors that explain the purchase price. Table 2 provides an overview of the assessed explanatory variables, subdivided according to building, location and property quality, earning power and transaction date.

**Table 2.** Explanatory Variables

Variable	Code	Unit	Description
<b>Identification</b>			
Transaction year	TYear	D	The calendar year of the transaction
<b>Building</b>			
Year of construction	Year of construction	[-]	Date, the building, was constructed
Construction year class	yclass1 – yclass7	D	Before 1919 – after 1990
Heating type	Heating	D	Assessed heating type at the time of the transaction
Building condition	Building condition	D	Structural maintenance state at the time of the transaction
actual floor space index	FSI	[-]	Actual floor space
Living and usable space	LVS	sqm	Total living and usable space of the residential building
Average living space per apartment	Ø Living space	sqm	The ratio between the living space and the number of units
<b>Location</b>			
Urban residential area	Resi area	D	Location rating according to Berlin rent rolls
Land value	Land value	EUR/sqm	Ascertained land value before the contract date
District	District	D	The respective district where the transaction took place
Plot area	Plot	sqm	Total property area
<b>Earning power</b>			
Net cold rent per square metre	Net rent	EUR/sqm	Average net cold rent per square metre of living space

D = dummy variable

**Source:** Own calculations

Below some of the explanatory variables are presented in an exemplary way concerning their impact on the purchase price and their transformation in the model.

### **Construction year class (class)**

The achievable rent as an essential factor for the purchase price is determined, among other things, by the nature of an apartment, which in turn is characterised by different construction methods in the respective periods. The building architecture and attractiveness is often shaped by the construction period, which, for example, can positively or negatively affect the privatisation potential for apartment buildings. If via modernisation measures, an adequate economic remaining useful life comparable to new buildings can be assumed for older buildings, the construction year class can be an indicator of the attractiveness of the apartment building and thus the purchase price. For the years of construction, individual construction year classes were created, which are based primarily on the grouping of the Berlin rent rolls because this categorisation takes into account the different rental structures in the respective submarkets.

**Table 3.** Construction Year Class

<b>construction year class</b>	<b>period</b>	<b>share in observations</b>
yclass1	before 1919	51,90%
yclass2	1919 - 1949	9,60%
yclass3	1950 - 1955	3,10%
yclass4	1956 - 1964	13,90%
yclass5	1965 - 1972	5,30%
yclass6East	1973 - 1990	1,30%
yclass6WEST	1973 - 1990	9,60%
yclass7	after 1990	5,10%
<b>Total</b>		<b>100%</b>

**Source:** Own calculations

The respective construction year class is considered a dichotomous dummy variable, where the 'yclass1' serves as a reference. However, the construction year class is to be understood as a block of dummy variables (Stahel, 2008, p. 33). Furthermore, in addition to the analysis of the construction year class as the main effect, also the interaction between the year of construction and the condition of the building was examined. However, a significant influence could not be verified in the model.

### **Building condition**

The average structural maintenance state of the building at the time of the transaction was determined by three state characteristics: good, normal and bad (poor). The regression analysis examines the deviation from the normal state, which represents the reference category. A corresponding decrease or increase in the purchase price is expected for poor and good conditions respectively. Furthermore, price-influencing interactions can also be assumed here. In addition to the combination to the year of construction, an influence by the interaction with the location or with the type of heating was also suspected and investigated. However, a significant effect was only ascertainable in the interaction between the simple residential location of the property and the good condition of the residential building (variable 'InterResiAreaBuilStateGood').

### **Actual floor space index (FSI)**

According to §20 of the Federal Land Utilisation Ordinance [*Baunutzungsverordnung (BauNVO)*], the floor space index expresses the ratio of floor space to property area and is thus a measure of the building use of the property. With an increasing floor space index and thus higher utilisation of the property, less green, open and recreational space can be assumed as well as increasingly dense building development, which is necessary for the tenant as an attractive residential location. Therefore, prices can be assumed to decrease as floor space increases. Conversely, with greater floor space due to increased utilisation possibilities of the property, relative to the living and usable space, the achievable rental income is also higher. Accordingly, increasing rental income and thus higher purchase prices are initially assumed as the actual floor area increases. However, the willingness to pay decreases for very high property utilisation, so a degressive increase is assumed.

### **Living and usable space (LVS)**

The size of the entire residential complex is measured using the variable 'living space' (LVS). Very large flats are considered unattractive by tenants, which is associated with lower demand. However, due to the lack of attractiveness and the associated lower rent levels, demand is more likely to increase among simple/problematic tenant clientele, which leads one to expect declining purchase prices as residential complex size increases. However, this fact opposes more efficient management as total living space or number of units' increases, with a corresponding potential positive effect on the purchase price. However, the negative will presumably outweigh the positive effect. The variables 'floor space index' and 'living space' were transformed and considered inversely in the model.

### **Land value**

According to §196 of the German Building Code, land values are average location values that are quantified by the land value. Here, the fictitious land value property

represents the typical usage for the region, which are firmly defined in a land value zone. Thus, land values also provide information about the location quality and the earning power of the property. With increasing earning power in the form of potential rental income, the land value increases as well. The average land values (median) in this data set are approximately EUR 400 per square metre and increase to approximately EUR 800 per square metre in good and very good locations. Due to the expected increase in purchase prices for higher-quality locations, rising purchase prices can also be expected with increasing land values and additional interaction effects between the upscale residential areas and high land values.

Conversely, the study of the relationship between the land value and the net cold rent did not result in any significant increase in rental income with increasing land value. Therefore, the willingness to pay for the land is assumed to be maximally degressive with increasing land values, which expresses the diminishing marginal utility. The explanatory variable 'land value' is therefore included in the model in logarithmic form ( $\ln \text{LandValue}$ ).

#### **Net cold rent per square metre (net rent)**

The net cold rent per square metre is examined as an essential survey feature. Net cold rent is the rent that is contractually agreed upon between the owner of the property and the tenant for providing the living space. It is an essential expression of the earning power of the apartment building and also crucial for the purchase price. Thus, the connection between the purchase price and the rent is positive. The average apartment rents per square metre have increased from approximately EUR 4 to EUR 7 per square metre. The rents in the data set are the quotient of the total rent and the living space without considering possible vacant space at the time of the transaction. Thus, the actual rents could be higher in part because vacancy is not taken into account as a survey feature in the data set. The difference between the actual rent and the market rent plays a significant role in determining the purchase price, as the potential for rent increases may have already been calculated in the purchase price.

Conversely, higher actual rents than the market rent can pose a risk of maintaining these rent levels in the long term, which also has a negative effect on the purchase price calculation. The same applies to rent-increase potential about reducing the vacancy rate. Therefore, the assumed positive influence of the rent on the purchase price is not necessarily linear.

A first model run already indicated a highly significant linear influence of the actual net cold rent per square metre on the purchase price. Additionally, the net cold rent exerts the greatest influence, expressed in the highest beta value, on the purchase price. As a result, further examinations were conducted about nonlinear relationships. With very high net cold rent values, the square metre purchase prices yet again show a decreasing tendency and are

thus still overestimated in the linear model. Thus, the relationship can be described by a quadratic or cubic context. The model was estimated using both second- and third-degree polynomials. However, the coefficients were highly significant only in the model with a second-degree polynomial at a 5% significance level. As a general rule, low-degree polynomials are used, as the resulting estimations are very unstable, especially for larger polynomial degrees on the fringes of the estimates (Fahrmeir, 2009: 75). The relationship between rent and price can, therefore, be better described as quadratic rather than purely linear.

## 5. RESULTS

The results of the estimated model are summarised in Table 4. All coefficients concerning their reference category, except a few dummy variables, are significantly different from zero and prove to be economically plausible regarding their portents. The explained 72.5% ( $R^2$  adj.) variance indicates a good adjustment of the data with a sample size of 3,401 purchase prices. In connection with the issue regarding the influence of real estate qualities on the purchase price, the adjustment of over 70% is classified as good.

**Table 4:** Results of the Model

M	Coefficient	Beta	Significance level
Constant	4,541		***
resi area-middle <sup>1</sup>	0,087	0,084	***
resi area-good	0,130	0,104	***
resi area-very good	0,159	0,047	***
building state good	0,093	0,073	***
building state poor	-0,113	-0,073	***
yclass2	0,007	0,005	
yclass3	-0,06	-0,023	*
yclass4	-0,054	-0,041	***
yclass5	-0,046	-0,022	*
yclass6East	-0,239	-0,058	***
yclass6WEST	-0,057	-0,037	***
yclass7	0,071	0,034	**
HeatingOther <sup>2</sup>	-0,162	-0,155	***
LVS (invers)	33,021	0,051	***
FSI (invers)	0,101	0,152	***

⊙ living space	0,001	0,061	***
lnLandValue	0,17	0,192	***
lnPlot	0,021	-0,036	**
net rent	0,214	0,733	***
(net rent) <sup>2</sup>	-0,007	-0,264	***
Freidrichshain-Kreuzberg <sup>3</sup>	-0,005	-0,003	
Pankow	0,073	0,027	*
Charlottenburg-Wilmersdorf	0,021	0,013	
Spandau	-0,035	-0,018	
Steglitz-Zehlendorf	-0,011	-0,006	
Tempelhof-Schöneberg	-0,001	-0,001	
Neukölln	-0,072	-0,038	***
Treptow-Köpenick	-0,021	-0,010	
Marzahn-Hellersdorf	0,159	0,034	**
Lichtenberg	-0,082	-0,033	**
Reinickendorf	-0,059	-0,030	*
InterResiAreaBuilStateGood	0,117	0,063	***
TYear1993 <sup>4</sup>	0,345	0,070	***
TYear1994	0,356	0,035	***
TYear1995	0,222	0,078	***
TYear1996	0,105	0,037	**
TYear1997	0,114	0,042	***
TYear1998	0,123	0,070	***
TYear1999	0,113	0,051	***
TYear2001	0,055	0,024	°
TYear2002	-0,072	-0,030	*
TYear2003	-0,087	-0,031	**
TYear2004	-0,061	-0,025	°
TYear2005	-0,042	-0,022	
TYear2006	0,145	0,100	***
TYear2007	0,249	0,174	***
TYear2008	0,202	0,103	***



TYear2009	0,143	0,071	***
TYear2010	0,196	0,099	***
TYear2011	0,312	0,187	***
TYear2012	0,365	0,181	***
TYear2013	0,396	0,021	*
R <sup>2</sup>	0,729		
R <sup>2</sup> <sub>adj</sub>	0,725		
RMSE (Root Mean Square Error)	0,241		
F-Test	169,58		***
number	3.401		

\*\*\*Signif. < 0,001; \*\*Signif. < 0,01; \*Signif. < 0,05; Signif. < 0,10

<sup>1</sup> the reference category is the simple residential location

<sup>2</sup> no modern heating

<sup>3</sup> Berlin comprises a total of 12 districts, the reference category is 'Mitte' with the majority of transactions

<sup>4</sup> the reference category is TY2000

**Source:** Own calculations

The results of the residual analysis of the hedonic model also indicate that the residuals approximately follow a normal distribution and are not distributed in a long-tailed manner. The estimated values against the residuals show inspect signs of normality, variance heterogeneity and outliers (Schendera, 2008: 53). The residuals scatter randomly and in a balanced manner around the zero lines; the variance of the residuals is constant. The uniform distribution of the residuals is given of the estimated values against the standardised values.

The exemplary coefficient with the highest beta factor should be explained in more detail. The most influential and highly significant variable with the highest beta value, as assumed, is the net cold rent per square meter. The net cold rent has been included as a second-degree polynomial in the model, with a positive  $\beta_1$  coefficient of 0.214 for the first-degree polynomial and a negative  $\beta_2$  coefficient of -0.007 for the second-degree polynomial. Thus, the connection between the purchase price and the net cold rent is described in the model by a downward-opening parabola (Auer & Rottmann, 2011, p. 494 f.). As the square metre rent increases, the purchase price increases initially, while the positive  $\beta_1$  dominates the purchase price trend up to a certain level of the net cold rent. Here, the rise in purchase prices is increasingly lower, and from a certain net cold rent level, even the purchase price falls. From here on, due to the high rent per square metre, the negative term  $\beta_2$  has a significant impact and determines the purchase price decrease.

## REFERENCES

- Auer, B. & Rottmann, H. (2011). Statistik und Ökonometrie für Wirtschaftswissenschaftler, Eine anwendungsorientierte Einführung. 2th edition. Wiesbaden: Gabler Verlag
- Ayan, E., & Erkin, H. C. (2014). Hedonic Modelling for a Growing Housing Market: Valuation of Apartments in Complexes. *International Journal of Economics and Finance*, 6(3).
- Backhaus, K.; Erichson, B.; Plinke, W. & Weiber, R. (2006). Multivariate Analysemethoden, Eine anwendungsorientierte Einführung. 11th edition. Berlin, Springer Verlag
- Berry, J., McGreal, S., Stevenson, S., Young, J., & Webb, J. (2003). Estimation of Apartment Submarkets in Dublin, Ireland. *Journal of Real Estate Research*, 25(2), 159–170.
- Bohl, M. T., Michels, W., & Oelgemöller, J. (2012). Determinanten von Wohnimmobilienpreisen: Das Beispiel der Stadt Münster. *Jahrbuch für Regionalwissenschaft*, 32(2), 193–208.
- Chiodo, A. J.; Hernandez-Murillo, R.; Owyang, M. T. (2009). Nonlinear Hedonics and the Search for School Quality. Federal Reserve Bank of St. Louis, Working Paper Series
- Colwell, P. F., & Dilmore, G. (1999). Who Was First? An Examination of an Early Hedonic Study. *Land Economics*, 75(4), 620–626.
- Day, B. (2001): The Theory of Hedonic Markets: Obtaining welfare measures for changes in environmental quality using hedonic market data.
- Fahrländer, S. S. (2007). Hedonische Immobilienbewertung: Eine empirische Untersuchung der Schweizer Märkte für Wohneigentum 1985 bis 2005, Martin Maidenbauer Verlagsbuchhandlung
- Fahrmeir, L.; Kneib, T. & Lang, S. (2009). Regression - Modelle, Methoden und Anwendungen. Berlin, Springer Verlag
- Fahrmeir, L.; Künstler, R.; Pigeot, I. & Tutz, G. (2011). Statistik, Der Weg zur Datenanalyse. 7th edition. Berlin, Springer Verlag
- Griliches, Z. (1991). Hedonic Price Indexes and the Measurement of Capital and Productivity: Some Historical Reflections. Cambridge, Mass: National Bureau of Economic Research.
- Haas, G. C. (1922). Sale prices as a basis for farmland appraisal. St. Paul: University Farm.
- Haas, S. (2010). Modell zur Bewertung wohnwirtschaftlicher Immobilien-Portfolios unter Beachtung des Risikos. Wiesbaden, Gabler Verlag

- Herath, S. & Maier, G. (2010). The hedonic price method in real estate and housing market research. A review of the literature. SRE Discussion Papers, University of Economics and Business, Vienna
- Jim, C. Y. & Chen, W. Y. (2009). Value of scenic views: Hedonic assessment of private housing in Hong Kong. *Landscape and Urban Planning*, 91(4), 226–234.
- Kleiber, W.; Simon, J. & Weyers, G. (2002). Verkehrswertermittlung von Grundstücken, Kommentar und Handbuch zur Ermittlung von Verkehrs-, Versicherungs- und Beleihungswerten unter Berücksichtigung von WertV und BauGB. 4th edition. Köln, Bundesanzeiger Verlag
- Kryvobokov, M., & Wilhelmsson, M. (2007). Analysing location attributes with a hedonic model for apartment prices in Donetsk, Ukraine. *International Journal of Strategic Property Management*, 11(3), 157–178.
- Lancaster, K. J. (1966). A New Approach to Consumer Theory. *Journal of Political Economy*, 74.
- Malpezzi, S. (2002). Hedonic Pricing Models: A Selective and Applied Review, The Center for Urban Land Economics Research. University of Wisconsin; Edited by Gibb, Kenneth & O Sullivan, Anthony, Housing Economics
- Maurer, R., Pitzer, M., & Sebastian, S. (2004). Hedonic price indices for the Paris housing market. *Allgemeines Statistisches Archiv*, 88(3), 303–326.
- Rosen, S. (1974). Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition. In: *Journal of Political Economy* 82, N0. 1, p. 34–55
- Schendera F. G (2008). Regressions analyse mit SPSS. München: Oldenbourg Wissenschaftsverlag GmbH.
- Sirmans, G. S. & Macpherson, D. A. (2003). The Value of Housing Characteristics. Florida State University, National Association of Realtors, National Center for Real Estate Research
- Soprancetti, B. J. (2010). Hedonic Regression Analysis in Real Estate Markets: A Primer. In C.-F. Lee, A. C. Lee, & J. Lee (Ed.), *Handbook of Quantitative Finance and Risk Management* (p. 1201–1207). Boston, MA: Springer US.
- Soprancetti, B. J. (2015). Hedonic Regression Models. In C.-F. Lee & J. C. Lee (Ed.), *Handbook of Financial Econometrics and Statistics* (p. 2119–2134). New York, NY: Springer New York.
- Stahel, W. (2008). Lineare Regression. Seminar für Statistik, ETH Zürich

- Thanasi (Boçe), (2016). Hedonic appraisal of apartments in Tirana, *International Journal of Housing Markets and Analysis*, 9(2), 239-255.
- Thomsen, O. (2014). *Ökonomische Bewertung von Natur - besonders geschützte Bereiche als wertrelevante Faktoren in der hedonischen Modellierung: Die Zahlungsbereitschaft für ein naturnahes, grünes Wohnumfeld am Beispiel von Freiburg (Brsg.)*. Josef Eul Verlag GmbH.
- Thomson, C. A. (1999). *Pricing Apartment Attributes: A Hedonic Analysis of the Dallas/Fort Worth Multifamily Rental Housing Market*, Massachusetts Institute of Technology
- Uhde, C. (1982). *Mathematische Modelle zur Analyse von Grundstücksmärkten*, Technischen Universität Hannover
- Wallace, H. A. (1926). Comparative Farm-Land Values in Iowa. In: *The Journal of Land & Public Utility Economics* 2, No. 4, p. 385–392
- Waugh, F.V. (1928). Quality Factors Influencing vegetable prices. In: *Journal of Farm Economics*, 10(2), 185–196
- Zeißler, M. (2012). *Zur Ermittlung von Bodenrichtwerten bei fehlenden Kaufpreisen unbebauter Grundstücke*, Gottfried Wilhelm Leibniz Universität Hannover
- Ziegenbein, W. (1977). *Zur Anwendung multivariater Verfahren der mathematischen Statistik in der Grundstückswertermittlung*, Technischen Universität Hannover

## **Politics for Turkey's Disabled Tourism (Case of Alanya District)**

Lect. Adnan Söylemez<sup>1</sup>,

### **Abstract**

Disabled tourism is a new concept and field of study for Turkey as well as for the whole world. It is aimed to provide disabled people with respect and equal treatment and free access to the right to participate in social life, in line with the strategy of involving disabled people by uninhibited tourism. This goal will only be possible if the accessibility and accessibility studies are carried out correctly, which will enable domestic and foreign tourists to enjoy their vacation without problems.

Despite being mandatory in the decade since the 2005 Barrier-Free Accessible Architectural Environment Act and the Barrier-free Transportation Act, there has been no solution other than just a few steps. There are still facilities for disabled people, older adults and their families to be able to vacation together with other people.

Moreover, of course, making architectural arrangements is not enough for the disability of families and their families to participate. For the exchange of mentalities, public officials, private sector employees and all collective disability should be taught to understand, communicate, and conduct correct behaviour.

In the urban residential area of Alanya District; marketing and financial cooperation to provide technical, institutional, national and international promotion, marketing and financial cooperation for the preparation and implementation of the projects to be made in order to provide accessibility for all and the development of tourism without barriers, Alanya Antalya Tourism Development Project was established and the following protocol was signed by all parties participation has been signed.

The purpose of this study is to discuss the studies on disability tourism in Turkey and to evaluate the studies made for the tourism of the disabled in Alanya district.

**Keywords:** tourism, disabled tourism, Alanya district

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## **1. INTRODUCTION**

It is a social responsibility to provide a better standard of living for disabled people. Perceiving disabled people as a part of whole society - not as a different group- and making arrangements to increase their activities in social life is a humanitarian mission and also the main right of disabled people. It is a public obligation to implement legal regulations towards disabled people which protect the rights they have as others and reinforce their honour and to support them participate civil, political, economic, social and cultural environments with equal opportunities.

In every period of history, different sets of attitudes and behaviours and social norms towards special disadvantaged groups have been established in societies. It has existed since the early ages to help the poor, to provide education for the poor, to support the sick, the homeless and the elderly, and to establish institutions for their benefit.

However, in Europe in the 18th century, the industrial revolution, as well as the traditional cooperation institutions and the religious institutions that encouraged the facilitation of their activities, caused the disadvantaged groups as social reality to be ignored and left to their fate.

Disadvantaged in the world and in Turkey, positive developments disabled individuals could be provided with legal regulations. Especially with the second half of the twentieth century, both international organisations and national governments could better understand the importance of this issue.

It is among the constitutional priorities of the modern states to create national and international social policies to ensure that legal arrangements and disadvantages, especially those with disabilities, can be embraced more vigorously, enjoy basic human rights and, above all, contribute to country values as producing and happy individuals (Blau, J. et al. and Abramovitz, 2003: 282).

## **2. DISABILITY IN TURKEY**

The participation of disabled people in social life is provided in various ways. Especially after the Disability Law and Labour Law, there has been a significant increase in the employment of disabled people and their participation in social activities. With these improvements made in the laws and regulations, many disabled, dependent and self-sufficient individuals are contributing to the development of the country. Many models were developed, and incentives were provided for the participation of disabled people in working life. Protected workplaces, one of them, have not found support by disabled people because it is a model that mostly for people with disabilities to work together.

On the contrary, they advocated increasing social exclusion. People with disabilities, working in the same environment as healthy people to have equal rights and want to find a place in everyday life. Thus, instead of being subject to self-pity, help and decision-making and affirmative action against individuals, they prefer to be individuals who are given opportunities, produce, have a say and create they're own social and family environment (Genç ve Çat, 2013: 367-368).

It is very important that the physical structure of the places they live for people with disabilities can live independently without the support of anybody and they live in an unobstructed city structure regarding accessibility. Because the provision of such an environment means that people with disabilities can live freely without being excluded in society or even without the presence of the disabled. In this framework, accessibility for persons with disabilities in our country was first introduced in 1997 under Annex 31, No. 3194. "In order to make the physical environment accessible to people with disabilities and liveable urban zoning plans, social, technical infrastructure space and structure, the Turkish Standards are required to comply with the relevant standards of the Institute" provision as has been granted a legal infrastructure (DDK, 2009: 97).

EU cohesion policy in the context of disability, Turkey, is considered along with other issues in the progress reports published regularly every year by the European Commission. In the 2016 progress report, the issue of disability was evaluated under the heading of public administration reform under the heading of political dialogue, developed political dialogue, and judicial and fundamental rights, which are the discussion headings, no. 21. According to this, although the employment of persons with disabilities in the public sector has increased compared to 2015 (40655 in 2015, 43151 in 2016), the 3% public employment quota allocated to disabled people could not be filled (European Commission, 2016: 15).

In this report, special emphasis was placed on the prevention of direct or indirect discrimination against persons with disabilities. However, the UN Convention on the Rights of Persons with Disabilities stated that legal compliance is not sufficient (European Commission, 2016: 76).

### **3. DISABLED TOURISM**

The definition of the disability that the World Health Organization (WHO) has done medically is as follows: "Health is not only the absence of illness and disability but also complete wellbeing of the physical, mental and social aspects. Disability is the absence of organs that cause a permanent loss of function and vision in a certain area of physical, mental and spiritual characteristics, and the resultant person is unable to meet the normal life requirements of the end-user. This person is also referred to as disabled."

Disability refers to an inherited or later discomfort, inadequacy or limited ability to perform physical or mental activities that an individual must do in an accident. The consequence of this is that the difficulties encountered in activities such as walking, sight, hearing and speaking are coming to the fore. Physical or mental integrity is temporarily or permanently impaired by birth or old age and is a human disability that is incompatible with the needs of the society in which it lives.

Providing access to the rights of disabled people to participate in social life by free and equitable treatment with respectable and equitable treatment will only be possible if the accessibility and accessibility studies that enable domestic and foreign tourists to seamlessly enjoy their vacation are made possible. On the other hand, the main condition for entering tourism with disabilities regarding the tourism sector is to have a facility, environment and personnel that can meet the needs of the disabled. In this sense, tourism enterprises, local governments and associations must cooperate in a coordinated manner, with clear lines of authority and responsibilities.

The Association of Turkish Travel Agencies (TÜRSAB) has established a committee called Accessible Tourism for All in 15th June of 2006 to support accessible tourism in Turkey. The committee's members are travel agencies while some NGO's are members being as advisers. The main objective of the committee is to identify the problems of accessible tourism in Turkey and to find out some solutions for these problems. Since the committee has been established, it has met several public fellowships, institutions, cooperation etc. to share opinions, and it also examined several transport infrastructures to find out the existing problems. The Committee has prepared some reports regarding these problems and shared them with related public institutions.

#### **4. POLITICS FOR DISABLED TOURISM IN ALANYA DISTRICT**

In this study, the situation for the disabled people in Antalya province of Alanya is determined, and the regulations that should be done are evaluated. The universe of the research constitutes the museums and ruins of the touristic destinations they have requested and visited in Alanya and the disabled individuals who are in the region and the administrators of the related attractions. It was planned to make suggestions for the development of disability tourism by investigating the situation of arrangements for disabled people in tourism destinations in Alanya. Recommendations available in case practices in other countries and Turkey is considered the legal basis and structure of demand.

In accordance with the integration of disabled people's to the social strategy which is based on "Accessible Tourism," it is aimed disabled people's acquiring their rights of joining the social life by having holiday receiving respect and equal treatment in Alanya. This target is only possible by carrying on the work that enables domestic and foreign



tourist's transportability and accessibility correctly. Because of the reasons that are stated above [www.tourismforall.org.tr](http://www.tourismforall.org.tr) (Accessible Tourism Project) which is the whole Turkey's accessible voice has been managed by ministry of family and social policies, disabled and the old services directorship, Alanya municipality, Alanya chamber of commerce and industry and Alanya tourism management society in coordinators of Tourism and Culture Ministry. Accessible Tourism City Alanya Project was prepared in Alanya county municipal settlement with the aim of ensuring transportability for everybody and to reach the necessary technical, institutional, national and international advertisements, marketing and financial coordination conducting and implementation of projects which will improve Accessible tourism and the protocol was signed by all counterparties in 2011 (Tourism for All, 2011).

All the arrangements made for the disabled people in Alanya which are determined as the study area were handled with the project "Alanya for All" project initiated by Alanya Municipality in 2003. The goal of the project is to take the necessary precautions to make the lives of the individuals who have lost their ability to act like the disabled, the elderly, the weak, the children, the sick and pregnant women constituting the majority of the society, to identify the deficiencies, to project the deficiencies correctly and to increase their accessibility and facilitate their daily lives. All the arrangements made for the disabled people in Alanya have been reached from the Barrier-Free Living Centre, and the Life without Barrier Association established for these purposes. During the tourism participation process, the activities in which the individual participates primarily are considered, and the accommodation management, parks, beaches and attraction centres on the route are evaluated.

Gazipaşa airport has been made accessible to the disabled, and there are special parking areas for disabled people in the parking area, convenient toilets, wheelchair services at the domestic and international terminals. As a result of this arrangement, it can be stated that transportation is provided for the disabled individuals and their relatives who want to spend their holiday in Alanya.

## **5. CONCLUSION**

In the city of Alanya, it was seen that the arrangements for the mobility of all the disabled groups, in general, were made by the Antalya Metropolitan Municipality and Alanya Municipality. This is indicative of local governments and individuals with disabilities.

It has been observed that the Disabled Living Center, which previously served both tourists with disabilities and tourist groups with disabilities, included almost every arrangement for disabled people. In addition to the regulations that are seen to be directed at people with physical disabilities, it is observed that the regulations directed towards

people with visual, speech, hearing and mental disabilities are also taken into consideration. Alanya is not exactly a destination suitable for disabled tourism. Despite the new arrangements and practices, there are still many drawbacks and weaknesses.

Alanya cannot be considered as a suitable area for disabled tourism. Many regulations and practices are not sufficient for disabled tourism.

## REFERENCES

- Blau, J. & Abramovitz, M. (2003). *Social Welfare Policy*, New York, Published
- Devlet Denetleme Kurulu (DDK) (2009). *State Auditors' Report*.
- European Commission (2016). *Turkey 2016 Report*, Brussels. November 9th.
- Genç Y. & Çat G. (2013). *Akademik İncelemeler Dergisi (Journal of Academic Inquiries)* 8(1), 363-393.
- Tourism for All (03.12. 2017). *Alanya Advertised in the Biggest Accessible Fair of Turkey*  
Retrieved from [http://tourismforall.org.tr/Haberler-Duyurular/alanya\\_advertised\\_in\\_the\\_biggest\\_accessible\\_fair\\_of\\_turkey/586](http://tourismforall.org.tr/Haberler-Duyurular/alanya_advertised_in_the_biggest_accessible_fair_of_turkey/586) (25.09.2018)
- Tourism for All (2011). *Welcome to the Web Platform of Tourism for All*, Retrieved from <http://tourismforall.org.tr/Sayfa-Wide/AboutTourismForAll/54> (25.09.2018)

## **Globalisation and Women's Employment**

Prof. Dr Verda CANBEY-ÖZGÜLER<sup>1</sup>

### **Abstract**

The economic aspects of globalisation can bring new opportunities and resources for women. Equally important is the promotion of the diffusion of ideas and norms of equality for women through globalisation. Women's increasing role in society is an important factor for planning and implementing successful development projects and programmes. This idea reflects a shift in emphasis from integrating women into development activities to incorporating gender issues relating to men's and women's roles and responsibilities. The gender gap in employment and job quality means that women have limited access to employment-related social protection, where such schemes even exist. For this reason, all countries that have recognised the importance of this matter have initiated women employment policies. The basis of these policies rests in a series of interrelated policy applications, such as lifelong training-centred flexible training systems, internship and career consulting applications within the framework of institutional arrangements regarding legal arrangements.

In this study, the place of women in the labour market and employment issues is examined within the context of globalisation, with examples from different countries given. Additionally, policies that need to be developed during this process are presented and supported with concrete, practical examples to develop corresponding recommendations, and the topic is also explored from other perspectives.

**Keywords:** Women, Employment, Globalisation.

### **1. INTRODUCTION**

Globalisation, which is regarded as a development in which goods and services, production factors, technology and financial resources can freely circulate among countries, began accelerating after 1980. In the economic sense, it began to manifest itself by opening up countries through removing obstacles to obtaining goods and services and allowing capital movement. During this stage, many negative effects, such as poverty, unequal income distribution, deterioration of working conditions, de-unionisation processes and immigration began emerging. Although there is extensive literature on globalisation's economic and social impacts, there is no consensus on the outcomes. Instead, two primary views have emerged. The first is an anti-globalist approach, which argues that the globalisation process is against underdeveloped/developing countries and in favour of

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developed countries, thereby increasing the injustices of poverty and income distribution. The second is a globalist approach, which claims that globalisation will help development by providing resource transfers to underdeveloped countries. However, there is a consensus that globalisation is a consequence of a major change/transformation process on a global scale and that it accelerates these changes and transformations.

Globalisation has made the world economy more integrated by removing obstacles to obtaining goods and services and capital movements among countries. Also, accelerating the flow of information and technology has brought countries closer to each other regarding cultural and institutional aspects. However, there are also negative developments threatening world peace and prosperity, such as global environmental pollution, depletion of natural resources, massive poverty, unemployment and social exclusion during the process of change/transformation.

## **6. GLOBALIZATION AND EMPLOYMENT RELATIONS**

Data from the International Labour Organization (ILO) indicate that women and men do not have equal employment opportunities. Globalisation has aggravated labour market problems, especially since the publication of ILO's declaration in 2008—Social Justice for a Fair Globalization. The challenges are enormous and include deepening poverty, weakening middle classes, and deteriorating work conditions. In this sense, the ILO emphasises creating new jobs to alleviate employment problems.

Nevertheless, the outlook of global employment is pessimistic. More than 800 million people in the world (i.e.,  $\frac{1}{3}$  of the world's labour force) are unemployed or underemployed (ILO, 2010). This figure is increasing rapidly in cases of the unemployed and recruits. There has been a decrease in the categories of business; enter level jobs, middle-level managers, for example, are completely excluded from the economic process. In 2010, nearly 4,000 government officials, employers, and workers' representatives from 183 states attended the 99th International Labour Conference in Geneva. Unemployment was top of the agenda and, like the previous year, the 2010 conference provided a useful forum for the exchange of views and ideas about unemployment and job creation. The proposed balanced policy strategy, arising from the discussions, emphasised

- an end to job creation crisis;
- a strong, sustainable, and balanced growth; and
- that the global economy, which existed even before the crisis, should be based on three pillars (e.g., combating structural imbalances) (MESS, 2010: 1).

## **7. GLOBALISATION AND WOMEN'S EMPLOYMENT**

The post-Fordist era, which began in 1973 with the oil crisis, witnessed radical changes in the economic structure, social structure, politics, and law (Soysal, 2010: 84). The changing

economic structure, globalisation and informalisation affected labour markets (Betcherman, 2003: 8). Developed and developing countries experienced globalisation in distinct ways. However, working lives in developing countries were more seriously affected. Women, who constitute half of the world's population, are more deeply involved than men in precarious, flexible, and informal jobs. A significant portion of the jobs created is in the service sector, and although globalisation appears to have promised women more employment opportunities, a considerable portion of these jobs is low paid and lacks social security and legal protection.

**Table 1.** Level and Trends in Rates of Labour Force Participation and Unemployment by sex, 2018

Country/Region	Labour Force Participation Rate (percentages) and gender gap (percentage points)			Unemployment rate (percentages) and Female-to-male unemployment rate ratio		
	Men	Women	Gap (Men-Women)	Men	Women	Gap (Men-Women)
World	75.0	48.5	26.5	5.2	6.0	1.2
Developing countries	81.1	69.3	11.8	4.6	6.1	1.3
Emerging countries	76.1	45.6	30.5	5.2	6.1	1.2
Developed countries	68.0	52.4	15.6	5.3	5.6	1.1

Source: ILO, 2018

Globalisation has brought about structural changes to women's labour. Women have to work with intermediaries in environments that are flexible, undefined, and insecure. The employment options open to women are informal and of poor quality, for example, vender, shoe painter. Also, women prefer flexible forms of work. Table 1 shows that female employment rate is low in developing countries.

**Table 2.** Shares and Trends in Own-Account and Contributing Family Work, 2018

Country/Region	The share of own account workers in total employment (percentages) and gender gap (percentage points)			The share of contributing family workers in total employment (percentages) and gender gap (percentage point)		
	Men	Women	Gap (Women-Men)	Men	Women	Gap (Women-Men)
World	36.2	26.1	-10.1	6.4	16.6	10.2

Developing countries	51.7	39.4	-12.3	20.2	42.3	22.1
Emerging countries	39.9	29.5	-10.5	6.2	17.0	10.8
Developed countries	10.6	6.9	-3.6	0.5	1.6	1.1

Source: ILO, 2018

According to ILO, in 2017, precarious employment (e.g., unpaid family workers and self-employed people) constituted 42% of the total job opportunities, affecting 1.4 billion people worldwide (ILO, 2017). The literature uses the concept of working poor to describe this change in the employment structure, whereas the more recent studies conceptualise it as wage poverty. Employee poverty and feminism of poverty are important concepts discussed in this study on globalisation and women's employment (Anonymous, 2003; Pezikoğlu, 2012: 84). Table 2 illustrates that women occupy more vacancies in the sectors of self-employment and unpaid family labour.

## 8. GLOBALISATION AND WOMEN'S EMPLOYMENT

The developments in Turkey are not unique and impervious to the developments in the world. The internal and external balances have shifted. A new world order came to be recognised in the 1970s; this is the time when the structure of the international economic system started to collapse, and new quests came to the fore. On September 12, 1980, Turkey's decision (No. 32, 1989) allowed full financial freedom, which increased the provision of capital inflows to the country (Brave, 2016: 1; Turk-Is, 2009: 5). These developments affected Turkey's labour market, with 53% of women employed in the service sector, 31% in agriculture, and 15%<sup>2</sup> in the industry sector.

**Table 3.** Labour Force by Household Population, 2004-2017 (Thousand people)  
(Population 15 years and over)

	Population	Labour Force	Labour Force Participation
<b>Total</b>	59 893	17 098	69,8
<b>Male</b>	29 649	21 484	72,5
<b>Female</b>	30 244	10 159	33,6

Source: TurkStat, Labour Force Statistics, 2004-2017

<sup>2</sup> [https://www.ilo.org/wcmsp5/groups/public/---/ro.../wcms\\_484715.pdf](https://www.ilo.org/wcmsp5/groups/public/---/ro.../wcms_484715.pdf)

Table 3 shows that female labour force and labour force participation rates are lower than males.

**Table 4.** Employment by Employment Status and Economic Activity (%)

Employment Status	Share in Total Employment	Unregistered Employment Rate
<b>Paid-casual</b>	61.7	26.9
<b>Employer</b>	1.2	0.2
<b>On your account</b>	8.8	16.1
<b>Unpaid Family Worker</b>	28.4	56.8

**Source:** TurkStat, Labour Force Statistics, 2004-2017

When Table 4 is examined, wage-wage work and unpaid family work are the forms of employment where women are intensively involved. 56.8% of the women work as unpaid family workers, and 26.9% of them work as wage earners.

**Table 5.** Distribution of Female Population Not Included in Labour Force by Reason

Reasons		Number of People (000)	(%)
Not seeking a job, but available to start	Discouraged	260	1,3
	Other	1.144	5,7
Working seasonally		68	0,3
Housewife		11.498	57,3
Education/Training		2.275	11,3
Retired		926	4,6
Disabled, old, ill etc.		2.527	12,6
Other		1.359	6,8
Population not in labour force		20.056	100

**Source:** TurkStat, Labour Force Statistics, 2004-2017

7% of the female population not included in the labour force consists of those who are ready to work although they are not looking for a job. 57.3% of the said population consists of those who are not involved in the labour market as they are engaged in domestic work.

## 9. CONCLUSION

Globalisation is increasing inequality and discrimination around the world. Neoliberal policies have forcefully redefined the classical social policy concepts and values. With globalisation gaining momentum, the differential development among countries has

increasingly become evident. Economic and political advantages have helped advanced countries achieve a desirable level of development.

Today, with the rapid spread of capitalist economy, neoliberalism has begun to prevail in the global sphere. The main emphasis of neoliberalism has been on the market law, deregulation, privatisation, the destruction of the concept of public goods, and the reduction of public expenditures regarding social expenditures. In developing countries, women are heavily involved in precarious employment and unpaid family labour. Although women enjoy better employment prospects in developed countries, there is scarcely any country/region where women and men have had *equal* access to employment opportunities.

## REFERENCES

- Betcherman, G. (2003). Labor Markets Worldwide: Key Trends and Major Policy Issues, World Bank Labor Market Policy Course, 1-40, Retrieved from <http://www-wds.worldbank.org/>, (06.04.2008).
- Cesur, E. E. (2016). Küresel Sermaye Hareketlerinin Türkiye'deki Gelir Dağılımına Etkisi, Türk Metal Sendikası Araştırma ve Eğitim Merkezi Yayınları-6, Ankara.
- ILO (2010). Krizden Çıkış Küresel İşler Paketi, Retrieved from: <http://www.ilo.org/publns>, (29.08.2018).
- ILO (2017). World Employment Social Outlook-Trends 2017, Retrieved from <http://www.ilo.org/publns>, (29.08.2018).
- ILO (2018). World Employment Social Outlook Trends for Women 2018, Retrieved from [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms\\_619577.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_619577.pdf), (29.08.2018).
- Kapar, R. (2006), Gelişmiş Ülkelerde Enformel İstihdamın Boyutları, Tes-İş Dergisi, 46-52.
- MESS (2010) MESS İşveren Gazetesi, 47 (848).
- Pezikoğlu, F. (2012). Sürdürülebilir Tarım ve Kırsal Kalkınma Kavramı İçinde Tarım-Turizm-Kırsal Alan İlişkisi, KMÜ Sosyal ve Ekonomik Araştırmalar Dergisi, 14(22), 83-92.
- Soysal, A. (2010). Türkiye'de Kadın Girişimciler: Engeller ve Fırsatlar Bağlamında Bir Değerlendirme, Ankara Üniversitesi Siyasal Bilgiler Fakültesi Dergisi, 65 (1), 84-113.
- Türk-İş (2009). IMF-DB Kavşağında Türkiye Sendikal Yaklaşım, Türk-İş Dergisi Eki, 386.
- TurkStat, Labour Force Statistics, 2004-2017, Retrieved from [http://www.turkstat.gov.tr/PreTablo.do?alt\\_id=1007](http://www.turkstat.gov.tr/PreTablo.do?alt_id=1007), (06.04.2018).



## **Procurement Goes Digital: The Supplier Relationship Management Case**

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A shift in attitudes to purchasing departments can be perceived. No longer is the chief goal solely to reduce costs; the procurement function is assuming strategic relevance in the business model, leveraging the supplier as a foundation for innovation. The knowledge accumulated by suppliers is accessed over the journey of long-term partnerships to streamline business practice. Businesses are finding themselves in increasingly competitive environments, and thus need to address inefficiencies in supplier management. "Procurement 4.0" is a concept used in discussing digitalisation in business processes, referring to the process of supplier relationship management and optimisation. This model and its application to supplier relationship management will be the focus of this article. Realising the efficiencies to be obtained in buyer-supplier relationships through "Procurement 4.0" will be explored, primarily through an emphasis on digitalisation of the relationship between the procurement department and supplier.

**Keywords:** Supplier relationship Management, Procurement 4.0, Digitalization, Strategic procurement, Maturity models in procurement

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## **1. INTRODUCTION**

Increasingly, businesses face challenges posed by the current sales market situation and a trend toward customised solutions. To keep up with such enhanced requirements, companies are forced to reduce the development period for new products. Since this leads to increased volatility of the markets, businesses are pushed to reduce costs and become increasingly innovative. In particular, purchasing departments are required to act more efficiently. A lean procurement approach can be a significant asset, ensuring that an enterprise maintains a competitive advantage (Fröhlich and Karlshaus, 2017). Rather than reducing costs the single highest priority, procurement will primarily need to employ actions that will enable strategic competitive differentiation (Nowosel et al., 2015). The main challenge this poses to companies will be to find ways for purchasing to address those new demands. Further, it will be necessary to identify, establish and assess actions that can promote the company's objectives.

## **2. PREREQUISITES FOR DIGITAL PROCUREMENT**

A requirement for the implementation of a digitalisation strategy in procurement is to identify the level of maturity of the firm's purchasing department (Fröhlich et al., 2018).

- In the ad hoc stage (first level of maturity), purchasing solely reacts and mainly performs standard operations rather than proactively pursuing a strategy. On this level, procurement is merely a supporting function with unstructured processes rather than a vital part of the company's strategy. The selection of vendors mainly relies on criteria like cost and availability.
- In the independent stage (second level of maturity), purchasing plays a more active role and implements present trends and methods. Its main objective is to efficiently deal with expenditures. Sourcing can act as a distinct business unit which is linked to research and development departments. The board regards the procurement function as a contributor to the business's economic success. Processes along the supply chain are detailed and recorded.
- At the supporting stage (third level of maturity), purchasing becomes a part of the overall competitive strategy of the business and is an integral part of the distribution chain. Vendors are increasingly seen as a significant component with the potential to add value. Relationship management both inside the company and outside is implemented and examined on a regular basis.
- If the procurement function is regarded as an essential component of the company's strategy and shapes long-term objectives and plans, the company is in the integrative stage (fourth level of maturity). Interdepartmental communication structures are in place and are constantly improved and extended. Its share in the business's success determines how well the purchasing department has achieved its goals.
- Once purchasing fully adopts the idea of digitalisation, the company has reached the extended or digital level (fifth level of maturity).

The competitive potential is generated by the purchasing department through the digitalisation of the relationship to its vendors. To reap its full benefit, this link must be incorporated into the business's overarching strategy. Therefore, the foundation for the digitalisation of the supplier-buyer relationship is laid in the fourth level of maturity (Lockamy and McCormack, 2004). It follows then that goals for efficiency in purchasing must be defined within the framework of overarching innovation aims already set out by the business.

### 3. A CONCEPTUALIZATION OF PROCUREMENT 4.0

The conceptual model of Procurement 4.0 is built on four elements that fuel digitalisation:

- Procurement adds value mostly through collaboration between different parties and the availability of information along the value chain (Schuh et al., 2015). This generates customisation possibilities within the framework of **Industry 4.0** as well as the integration of different stakeholders (**people**) into the processes of a company. According to McKinsey Studies, maintenance cost can be decreased by up to 40% through digitalisation of the purchasing function. Additionally, the drop in time-to-market can be in the order of 50% and forecast reliability improved by 85%, owing to the incorporation of large amounts of data (McKinsey, 2016). This enables businesses to let their customers benefit from this reduction in cost by reducing prices.
- Big Data is another driver for digital transformation. Countless sources provide a nearly endless supply of data that a purchasing team can work with. Appropriate and professional handling of this data requires special solutions for storage, processing and appraisal of this enormous amount of information. The treatment of such data volumes will play a pivotal role in a company's future competitive success (Cavanillas et al., 2016). So far, the flow of data along the product lifecycle has not often been used to its full potential as a foundation for innovation. This would result in firms being able to handle their data professionally and exercising more control over their core processes (Bechtold et al., 2014). Process analysis is driven by data and interdepartmental product development records lead to chances for innovation stemming from purchasing (Manyika et al., 2011). It is necessary to fix data safety issues by establishing Big Data value chains.
- Other key elements in this model that progress digital transformation are **Cyber-Physical Systems (CPS)** and the **Internet of Things (IoT)**. CPS are systems with embedded software, sensors and actuators (Esterle and Grosu, 2016), which have a multitude of capabilities. CPS assess and store data and can interact with each other. They can use globally accessible data and services and can be reached via human-machine ports (Gilchrist, 2016). A significant product of this technology is SMART products (Kang et al., 2016) which are intelligent and interactive, and can respond to external stimuli. They also can learn autonomously and can adjust to special demands (Bechtold et al., 2014). A CPS

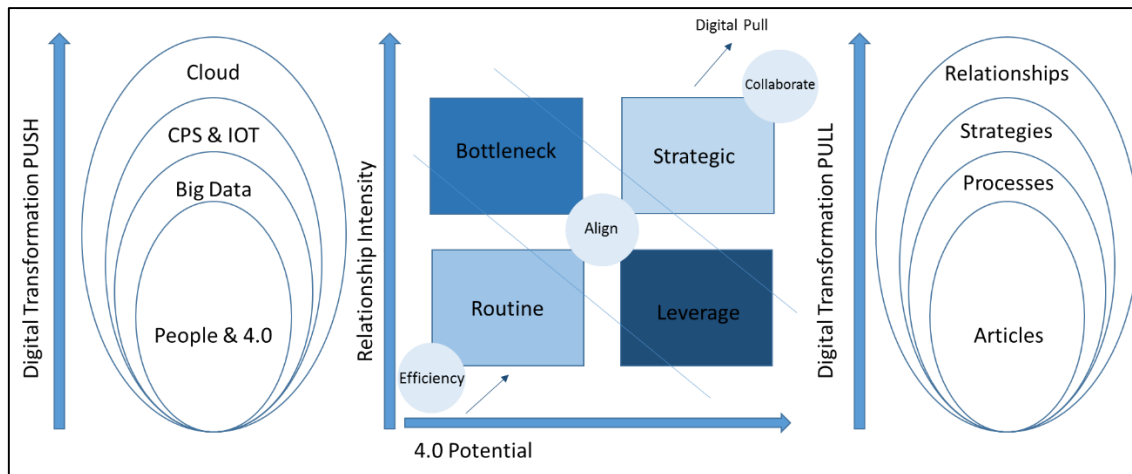
can be used to transmit production data in real time to be utilized in capacity planning, logistics and maintenance.

- In contrast, IoT refers to the autonomous communication of objects with each other via the internet for the purpose of performing particular operations. This communication can range from the provision of routine data updates to alarm and emergency purposes (Manyika et al., 2015). IoT enables interaction between machines but also communication from humans to machines or from humans to their surroundings (Khodadadi et al., 2016). Further, IoT provides a platform for monitoring cooperation along the value chain in addition to managing the lifecycles of products (Russo, 2015).
- **Cloud Computing** is the remaining important push factor for digitalisation. Cloud Computing is the flexible provision of IT resources, independent of location and with various forms of access, via a service-based business model (Internet or Intranet) (Kushida et al., 2011). Benefits for purchasing range from reduced storage cost and improved processing power of hardware too much lower costs for systems and licenses (Narayanan et al., 2017). Thus, the procurement department's access to relevant data can be maintained even when finances are restricted. However, there is a data safety risk associated with storing data outside the business' direct sphere of control.

The underlying theory for the model (see figure 1) presented is Kraljic's (1983) portfolio approach. Two aspects are relevant when deciding on strategically important procurement objects: how they contribute value and the extent to which risk is associated with purchasing them. An approach has required that deals differently with resources from various fields of economic activity, related to their associated prospect of success. As applied to purchase digitalisation, this means that the main drivers for digitalisation are "4.0 potential" as well as "relationship management".

Regarding the first facet (**4.0 potential**), it is important to consider that this is heavily dependent on people. It is the stakeholders that initiate the digital transformation which in turn triggers the production of Big Data, making CPS as well as IoT possible. Due to this, the Cloud can be regarded as the overarching framework encompassing all digitalisation actions. In addition to 4.0 potential, the progression of transformation addresses relationship intensity, in order to rate the digitalisation process. Standard items and transactions are required to be handled efficiently with regards to digitalisation. However, those items are encountered at lesser tiers of relationship intensity and a low cumulative 4.0 potential, owing to digital handling efficiency. A thorough commitment to digitalisation needs to be integrated into the business strategy to enable the company to take full advantage of the potential through this transformation. Within the conceptual model, this would translate to finding the company in the strategic and collaborative area of the diagram.

**Figure 1: A Conceptual Model of Procurement 4.0**



**Source:** Fröhlich et al., 2018

Linking this with the fourth level of maturity, it can be determined that digital purchasing solutions need to be applied at the product level so that efficiency of sourcing can be ensured and that digitalisation of purchasing strategies is made possible.

It must be kept in mind that in order to reach the fifth maturity level, the collaboration between the purchasing department and suppliers needs to be addressed if the digital transformation is to be fully exploited.

#### **4. MANAGING DIGITALIZATION OF PROCUREMENT AND SUPPLIER RELATIONS: INITIAL FINDINGS**

The conceptual model of Procurement 4.0 has been discussed. Following the finding that digitalisation of the purchasing function starts with e-procurement, which refers to the sourcing of articles and processes (Quesada et al., 2010), the logical next step is the integration into the overall strategy. Eventually, however, the way relationships with the supplier are set up will need to be the predominant focus of digitalisation efforts.

Many factors make supplier relationship management significant within this context. A widely appreciated reason is the cost reduction that know-how provided by the vendor can offer, thus addressing one of the primary and enduring goals of a purchasing department. Another important goal is ensuring that operations do not come to a standstill, which could cause a threat to the company's reputation. Procurement has to ensure that the main company goal - meeting its customers' needs - can be performed to the required standards with the required resources (Glock et al., 2017). Newly realised advantages of supplier relationship management are the main motive for the digital approach to supplier relations. Today, advanced capabilities of vendors are a crucial source for innovations (Glock et al., 2017). Reaping the benefits of previously discussed technologies is only possible if procurement also adjusts the method with which it establishes relationships with its suppliers.

The example below stems from a Cologne Business School study based on a firm in the energy sector. The authors acknowledge that results from such a case design (Yin, 2018) are only able to give an insight into existing challenges regarding the establishment of a supplier relationship management system. Nevertheless, the following insights resulted from this case study:

- Businesses **lack a structured approach to supplier segmentation**. Without supplier segmentation, it is difficult to identify vendors prepared for a more digitalised relationship.
- In general, purchasing staff **lack knowledge of management's regulations on supplier relationships** and how to optimise gain from those relationships. It is necessary for Procurement 4.0 to ensure that employees gain a better understanding of the toolkit at their disposal to improve procurement performance.
- It is crucial to **invite the vendors onto the team** as early as possible (Fröhlich, 2015), in particular when it comes to establishing new processes that will impact the supplier touchpoints throughout the digital supplier journey (see figure 3).
- While businesses know that **long-term relationships** (Krause et al., 1998) with suppliers can be a key asset for improved results in the future, their significance is not self-evident. It is costly to establish them, which makes it a contrasting priority to the important target of cost reduction through the procurement function.
- Lastly, the lack of **supplier satisfaction** rating tools is a lost opportunity for feedback from the vendor's side. The data not currently collected could be used to further the strategic goals for all organisations involved.

The study's findings permit proposals to be made regarding a recalibration of supplier relations in the light of Procurement 4.0. As outlined in the conceptual model for Procurement 4.0, automation allows purchasing to focus on actions that add value since the segmentation and appraisal of supplier can take place automatically. Information gathered can be communicated to all stakeholders involved and serve as a foundation for decisions on the next steps to be taken. Purchasing systems that can be used intuitively will enable customisation by individuals during procurement. Important relationships to suppliers are handled by key account supplier managers with detailed knowledge of the supplier data they receive. Centring the approach around the supplier and establishing online platforms to exchange knowledge and communicate well furthers innovation and supports collaboration.

In summary, to realise digital transformation in purchasing, the right strategy and leadership approach, as well as support from top management, is crucial.

Whether or not a company understands its suppliers in a digital environment is the most relevant question to be posted when focusing on the relationship aspect within the framework of Procurement 4.0. Attracting and retaining digital talents who can manage digital supplier relations will require investment and organisational support.

Suitable digital processes, as well as the right toolkit and control instruments, are crucial for purchasing departments to meet the company's requirements (Deloitte, 2018).

## **5. CONCLUSION**

An emerging 'digital reality' in purchasing can be discerned in Germany. Procurement is seen as an essential part of the strategy to drive future innovation, primarily harnessing digitalisation of buyer-supplier relationships. The issue that arises here is how to implement the various tools encompassed by Procurement 4.0. A diversity of existing levels of maturity can be observed, ranging from businesses only starting to implement basic e-procurement procedures through to sophisticated AI solutions. With this discussion in mind, realising multiple benefits through digitalisation in purchasing can be achieved.

## **REFERENCES**

- Bechtold, J.; Kern, A.; Laurenstein, C. & Bernhofer, L. (2014). Industry 4.0 - The Capgemini Consulting View: Sharpening the Picture beyond the Hype. Retrieved from [https://www.capgemini.com/consulting/wpcontent/uploads/sites/30/2017/07/capgemini-consulting-industry-4.0\\_0\\_0.pdf](https://www.capgemini.com/consulting/wpcontent/uploads/sites/30/2017/07/capgemini-consulting-industry-4.0_0_0.pdf) (21.09.2018).
- Cavanillas, J. M.; Curry, E. & Wahlster, W. (2016). The Big Data Value Opportunity. New Horizons for a Data-Driven Economy, ed. by J. M. Cavanillas; E. Curry & W. Wahster, 3-11.
- Deloitte LLP. (2018). Leadership: Driving Innovation and delivering impact. The Deloitte Global Chief Procurement Officer Survey 2018. Retrieved from <https://www.deloitte.com/de/de/pages/operations/articles/cpo-survey-2018.html> (11.4.2018).
- Esterle, L. & Grosu, R. (2016). Cyber-physical systems: Challenge of the 21st Century. *Elektrotechnik und Informationstechnik* [Electrical engineering and information technology], 133(7), 299-303.
- Fröhlich, E. (2015). CSR und Beschaffung. Theoretische wie praktische Implikationen eines nachhaltigen Beschaffungsprozessmodells [CSR and Procurement. Theoretical and practical implications of a sustainable procurement process model]. Berlin / Heidelberg.
- Fröhlich, E. & Karlshaus, A. (2017). Status Quo: Personalentwicklung in der Beschaffung – Ergebnisse einer empirischen Studie. Personalentwicklung in der Beschaffung [Status Quo: Personnel development in procurement - Results of an empirical study. Personnel development in procurement], ed. by E. Fröhlich / A. Karlshaus, Wiesbaden, p. 1-25
- Fröhlich, E.; Steinbiß, K. & Wexford Whelan, M. (2018). Lieferantenmanagement im Zeitalter der digitalen Transformation [Supplier management in the age of digital transformation]. *Journal of Engineering, Management and Operations*, 1(1), 153-164.

- Gilchrist, A. (2016). *Industry 4.0. The Industrial Internet of Things*, New York.
- Glock, C. H.; Grosse, E. H. & Ries, J. M. (2017). Decision Support Models for Supplier Development. Systematic Literature Review and Research Agenda. *International Journal of Production Economics*, No. 193, 798-812.
- Kang, H.; Lee, J.; Choi, S.; Kim, H.; Park, J.; Son, J.; Kim, B. & Buckley, N. (2016). Smart Manufacturing: Past Research, Present Findings, and Future Directions, in *International Journey of Precision Engineering and Manufacturing Green Technology*, 3(1), 111-128.
- Khodadadi, F.; Dastjerdi, A. V. & Buyya, R. (2016). Internet of Things: An Overview. *Internet of Things – Principles and Paradigms*, ed. by R. Buyya and A. V. Dastjerdi 3-28.
- Kraljic, P. (1983). Purchasing Must Become Supply Management. *Harvard Business Review*, 61(5), 109-117.
- Krause, D. R.; Handfield, R. B. & Scanell, T. V. (1998). An empirical investigation of Supplier Development. Reactive and Strategic Processes. *Journal of Operations Management*, 17(1), 39-58.
- Kushida, K. E.; Kurray, J. & Zysman, J. (2011). Diffusing the Cloud: Cloud Computing and Implications for Public Policy. *Journal of Industry, Competition and Trade*, 3(11), 209-237.
- Lockamy III, A. & McCormack, K. (2004). The development of a supply chain management process maturity model using the concepts of business process orientation. *Supply Chain Management: An International Journal*, 9(4), 272-278.
- Manyika, J.; Chui, M. / Brown, B.; Bughin, J.; Dobbs, R.; Roxburgh, C. & Hung Byers, A. (2011). *Big data: The next frontier for innovation, competition, and productivity*, McKinsey Global Institute, May 2011.
- McKinsey & Company (2016). *Industry 4.0 at McKinsey's model factories. Get ready for the disruptive wave*. Retrieved from [https://capability-center.mckinsey.com/files/mccn/2017-03/digital\\_4.0\\_model\\_factories\\_brochure\\_2.pdf](https://capability-center.mckinsey.com/files/mccn/2017-03/digital_4.0_model_factories_brochure_2.pdf) (21.09.2018).
- Narayanan, S.; Sambamurthy, V. & Choi, T. Y. (2017). Getting Value from the Cloud. *Supply Chain Management Review*, 56(2), 32-37.
- Nowosel, K.; Terrill, A. & Timmermann, K. (2015). *Procurement next Frontier – The Future Will Give Rise to an Organization of One*, Accenture Strategy
- Quesada, G.; Gonzalez, M. E.; Müller, J. & Müller, R. (2010). Impact of E-Procurement on Procurement Practices and Performance. *An International Journal*, 17(4), 516-538.
- Russo, G.; Marsigalia, B.; Evangeliste, F.; Palmaccio, M. & Maggioni, M. (2015). *Exploring Regulations and Scope of the Internet of Things in cContemporary Companies*:



A First Literature Analysis. *Journal of Innovation and Entrepreneurship* 11(4), 1-13.

Schuh, G.; Reuter, C.; Hauptvogel, A. & Doelle, C. (2015). Hypothesis for a Theory of Production in the Context of Industry 4.0. *Advances in Production Technology*, ed. by C. Brecher, 11-23.

Yin, R. K. (2018). *Case Study Research and Application*, 6<sup>th</sup> ed., Los Angeles.

## Restrictions on Blockchain Technology

Arif Furkan Mendi<sup>1</sup>

### Abstract

With Bitcoin's attack in finance, a new wind began to flow in the stock market, and with the emergence of many new crypto money, the crypto money market has become a new area of finance. Although Blockchain technology is the technological infrastructure of Bitcoin, awareness is not as high as Bitcoin. Despite it was found in 1992, its first use was in the shadow of Bitcoin, influenced by the fact that it was with Bitcoin in 2008. However, due to the features that it provides; Without Blockchain technology, the Bitcoin system would not work. As the dazzling offer of Bitcoin; through the decentralised structure, buyers and sellers can meet directly on a platform and make their purchases securely, without the involvement of any third party. Verification in the system can only be done by approving by more than 50% of the participants. Thus, besides no need for a central authority, it became almost impossible for any cyber-attack to be successful. The continued success of Blockchain technology is vital for Bitcoin and other cryptographic currencies survival. Besides of all these advantages, there are some issues that need to be addressed for Blockchain technology. These can be listed as throughput, latency in processing, size and bandwidth, some security vulnerabilities, resource waste for adding a new block to chains, usability, and privacy. In this article, we will discuss these issues that need to be addressed for Blockchain technology.

**Keywords:** Blockchain, Blockchain Restrictions, Blockchain problems

### 1. INTRODUCTION

The blockchain is defined as a distributed database that keeps a list of ever-growing transaction records protected from threats such as stealing or destruction. It consists of blocks holding the stacks of individual operations. Each block contains a timestamp and a link to the previous block (Nakamoto, 2008). It is necessary to correct the misconception that Bitcoin and Blockchain, commonly known in society, are the same or similar concepts. In today's Internet world, many areas (such as multimedia, communication, web interface) are transferring data. In addition to these data, Blockchain technology is a distributed database that allows us to transfer assets we value. With the Bitcoin cryptocurrency, which was proposed by a secret writer named "Satoshi Nakamoto" in 2008, the world began to talk about the existence of a new international currency. While Bitcoin was originally thought of only as money, it was noticed that later on the Blockchain technology at the base of Bitcoin could be a more general use area.

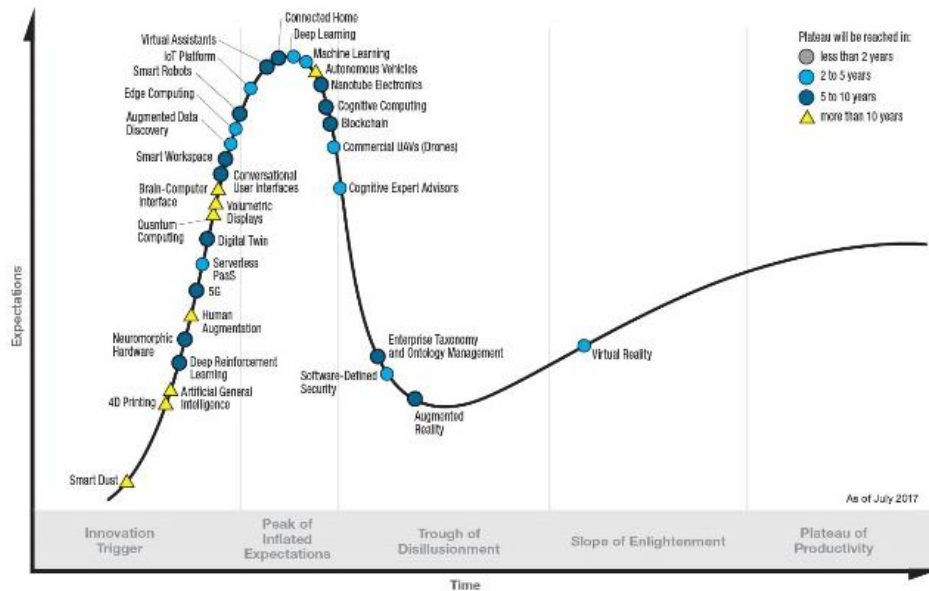
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Blockchain technology will be approved by the common decision of all participants in the system to the parties who do not know each other, or to the untrusted parties, and prepare a record for everybody interested. The blockchain is a way to create and protect reality (The Economist, 2015). In general terms, Blockchain allows the central control mechanism or trusted authority to be removed, spreading the encrypted data across all participants in the network in a distributed database structure instead of central trust. Blockchain technology is commonly known as technology under crypto money like Bitcoin and Ethereum. However, this technology has a much wider range of possibilities and diversified applications. Despite the existence of 1991, firstly used with Bitcoin crypto money in 2008. The interest in Blockchain technology is increasing steadily with the widespread use of Bitcoin. The reason for the interest in Blockchain is that it allows users to do secure transactions without the need for any trusted central authority. Blockchain technology enables clients and providers to operate directly with each other securely without the need for a third party to approve. All transactions are kept in a distributed database using cryptography so that this exchange between client and provider can be done securely. In order to be able to modify this distributed database, the relevant changes must be recorded on all computers in the system. In order to succeed in any chain of cyber-attacks, it is necessary to verify over more than 50% of the computers, which makes the probability of successful attacks almost impossible. Advantages such as security, no-intermediation, transparency in data acquisition make Blockchain technology attractive.

In Gartner's "Emerging Technologies" report, which analyses emerging technologies, when we look at the "Hypecycle" curve of Blockchain technology showing the time to anticipate, we see that Blockchain technology has passed the "Peak of Inflated Expectations" and the technology is going to "Trough of Disillusionment" phase (Figure 1). It is also shown that technology takes five to ten years to reach the productivity field. When we look at the chart, the fact that Blockchain technology is on a declining trend means that it cannot reach the threshold in the short run. The main reason for this is that the technology is new and there are unresolved problems. With the work to be done within 5-10 years, understanding of technology, elimination of deficiencies and reaching level will be ensured.

**Figure 1: GARTNER Hype Cycle for Emerging Technologies**



**Source:** Kasey Panetta, 2017

Beside of the advantages, there are some issues that need to be addressed for Blockchain technology in order to reach the productivity area. These can be listed as throughput, latency in processing, size and bandwidth, some security vulnerabilities, resource waste for adding a new block to chains, usability, and privacy. In this article, we will discuss the issues that need to be addressed for Blockchain technology.

## 2. METHODOLOGY

Blockchain technology enables clients and providers to operate securely with each other directly without the need for a third party to approve. All transactions are stored in a distributed database using cryptography so that this exchange between client and provider can be done securely. Without Blockchain technology, the Bitcoin system would not work. As the dazzling offer of Bitcoin; through the decentralised structure, buyers and sellers can meet directly on a platform and make their purchases securely, without the involvement of any third party. Verification in the system can only be done by approving by more than 50% of the participants. Thus, besides no need for a central authority, it became almost impossible for any cyber-attack to be successful. The continued success of Blockchain technology is vital for Bitcoin and other cryptographic currencies survival. Besides of all these advantages, there are some issues that need to be addressed for Blockchain technology. Hence, these can be listed as throughput, latency, size and bandwidth, some security vulnerabilities, resource waste for adding a new block to chains, usability, and privacy.

## **2.1 Throughput**

Throughput is the first problem that is needed to be solved. If we look at the number of transactions that can be performed for a second, Bitcoin network can perform seven transactions at a time (7tps). For Ethereum, another Blockchain-based cryptocurrency, this number ranges from 3 to 20 (Vitalik Buterin, 2016). On the other hand, this number is quite high in other transaction processing networks such as VISA (2,000tps) and Twitter (5,000tps) (Yli-Huumo, Ko, Choi, Park, & Smolander, 2016). When the frequency of operations in the Blockchain rises to similar levels, the efficiency of the Blockchain network needs to be increased so that the competition can be achieved.

## **2.2 Latency**

The speed of adding a block on the chain is one of the important criteria at the point of preference. Approximately 10 minutes are needed to verify bitcoin transfers (Bitcoin wiki, 2018a). This period is quite long for transferring formalisation. In order to achieve effective security and becoming safer against double-spending attacks, this long time is necessary. Double spending problem is, spending the same coin for multiple times (Investopedia, 2018). Bitcoin protects double spending by verifying each transaction inserted into the chain to ensure that the inputs of the process are not previously spanned. This is causing the delay in Blockchain which is a big problem right now. Making a block and confirming the transaction should happen in seconds while maintaining security. VISA takes only a few seconds to complete a transaction which is a huge advantage compared to Blockchain (Yli-Huumo et al., 2016).

## **2.3 Size and Bandwidth**

Block size in Bitcoin is currently set at 1M (Eyal, Gencer, Sirer, & van Renesse, 2015). Also, the size of a Blockchain in the Bitcoin network is over 50MB. The blockchain is predicted to grow 214PB in each year (Yli-Huumo et al., 2016). Thus, if Bitcoin reaches the throughput level of VISA, there will be a problem related to size and bandwidth. The number of transactions included in each block is also limited by the bandwidth of nodes participating in leader election which is the current bandwidth per block is 1MB for Bitcoin (Ali et al., 2016). If it is considered that a block is created every ten minutes with an approximate size of 1MB, so there is a limitation in the number of transactions that can be handled. In order to control more transactions, the size and bandwidth issues have to be solved on Blockchain.

## **2.4 Waste of Resources**

On the Blockchain network, successful transactions between the endpoints are taken to a list identified as "Unconfirmed Transaction Pool" in nodes called "Miner". The validity of the blocks is checked here, and the appropriate blocks are kept waiting to be added to the chain. Miners compete to form a list of unconfirmed operations that does not exceed a certain size, called a "block." It tries to find a special conditional "Hash" code for each block, which can be found in a large number of trials that cannot be computed with a standard formula, which depends on all transactions placed in that block and

references the previous valid block. The miner, who finds this value first, publishes the hash value it finds for the block, and the experiment it takes to reach this hash, at the end of the mistakes, it publishes another numerical value network called "Nonce" which allows it to reach that hash. This is the first time that you complete this process, and the miner has joined the first block in the process queue and received the reward. This calculation intensive processing that miners have realised is called "mining". This consensus method is referred to as "Proof of Work (PoW)" because it requires a lot of CPU power and validation of a valid hash and nonce find operation (Tasca & Tessone, 2017).

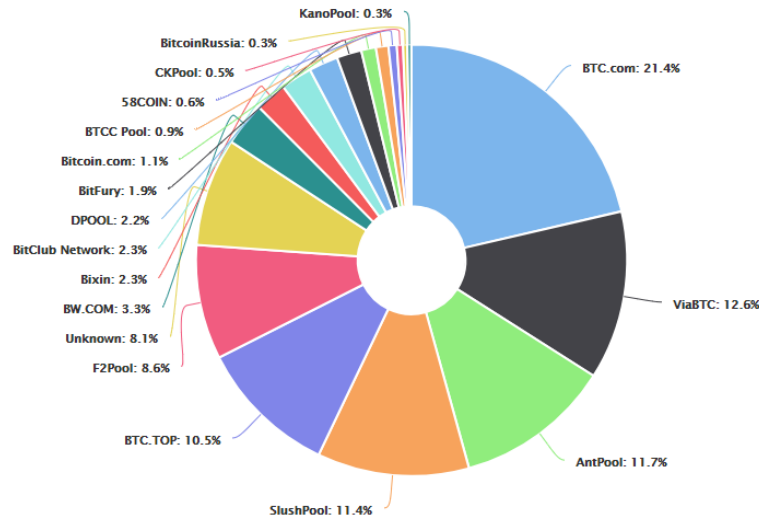
Consensus methods vary according to different Blockchain technologies and needs; each idea unity mechanism brings advantages and disadvantages based on different features. For this reason, various methods of consensus are available according to the needs of the Blockchain system (Mattila, 2016). Although there are various ideas of consensus models, the Proof of Work method is the most widely known and widely used.

Bitcoin mining wastes serious amounts of energy, which is \$15million/day (Yli-Huumo et al., 2016). This waste is about PoW effort. There are alternative methods such as Proof of Stake (PoS), which you have to have money in your electronic wallet to make money. Your winnings will be directly proportional to the amount of money you hold in your prize purse. It means the more money you have in your wallet, the more rewards you will get (Bitcoin wiki, 2018b). Such energy-saving methods should be preferred to prevent waste of resources.

## 2.5 Security

Security is the main reason Blockchain has gained popularity in recent years. The vast majority of cryptocurrencies, primarily Bitcoin, use the Proof of Work (PoW) method for verification on the network. In the PoW method, you win as many blocks as you mine. Also, in this verification method, the first person to solve the algorithm needed to insert the block string receives the reward. This type of mining requires investors to take an active role in validating the data blocks, which ensures that transactions are validated and new crypto money is generated. If you do not actively work for block verification in this mining type, you will not receive any awards. Since the prize is awarded to the first person who solved the new block, and because the processor power is needed to solve the block algorithm, those with the highest processor power are most likely to receive the reward. This has led to the institutionalisation of the mining process and the establishment of large mining farms where millions of high-capacity processors operate (Figure 2).

**Figure 2:** Bitcoin Mining Pool Hashrate Distribution



**Source:** Bitcoin Hashrate, 2018

It has become impossible for users to make bitcoin mining with their desktop computer now in their homes. This situation hurts the idea that many cryptocurrencies like Bitcoin are not connected to a centre which is the first exit idea. Verification in the system can only be done by approving by more than 50% of the participants. If more than 50% of the nodes in the network are being controlled by a single user, there is a possibility that manipulation can be done by that user. In this condition, Blockchain's central approach will be corrupted, and network control will belong to a single part. Especially when we look at the Bitcoin mining pools, we see that the pools are under the control of certain companies. It is not seen as a distant dream that one of these companies has more than 50% of the network. Therefore, further investigation of security is required to resolve this problem.

## 2.6 Usability

It is difficult to use Blockchain application API's like Bitcoin API provided for application development. There is a need to develop a more developer-friendly API for Blockchain. At the point of application of the technology, we see that there are no standards yet. The open source system is preventing many different software groups from creating a standard for different ideas to be constructed differently. All companies use their infrastructures and the system they build; there is no standard infrastructure. To solve this problem, in the coordination of the LINUX Open Source Code community; a group of 54 companies including technological institutions such as IBM, Cisco, Fujitsu as well as financial institutions such as "J.P. Morgan" Accenture have established an open source community called "Hyperledger" (Hyperledger, 2018a). The community continued to market the "Fabric 1.0" version in July 2017 after working on it. In February 2018, Sawtooth continued to market version 1.0. Apart from these versions, Iroha, Indy,

Burrow is also available. They aim to produce a mature version after evaluating the feedback they give after using the different versions and the developers use (Hyperledger, 2018b). This consortium, which is continuing their efforts to bring them to the mature level, are required to create a giant infrastructure that will provide money transfers between the companies and the sectors. With this infrastructure, it is thought that awareness can be created in the internet world and finance field. The work that Hyperledger has done is intended to correct the usability issue.

## 2.7 Privacy

The blockchain is a Peer to Peer (P2P) ledger for transactions. In order to issue transactions, public key cryptography is employed. A user on the system is provided with a public and a private key: the private key is used for signing transactions, while the public one is used as an address in the system. Therefore, no real-world identity is needed for transactions: this is a form of "Pseudonymity" (Conoscenti & Carlos De Martin, 2016). Data transparency is provided with pseudonymity; every transaction and its associated values are visible to everyone in the system (Mooney, 2011). Because Blockchain is a distributed network without the need for a trusted party, all transactions are transparent and publicly disclosed. Users on the network have some privacy-related problems because they can see the entire transaction flow, although nodes cannot see the private information associated with the identities. Although the sender and field addresses are public keys instead of open names, all operations are public keys, and it is theoretically possible to go out of a known process and follow the actions of any participant. However, this is not the case in particular in scenarios where financial actors are involved. When we look at the researches related to the solution of this problem, many conflicting studies emerged. Koshy and colleagues analysed a traffic pattern in Bitcoin and found out that some subset of Bitcoin addresses can be mapped to an IP address simply through observing the transaction relay traffic (Koshy, Koshy, & McDaniel, 2014). Feld et al. generated a tool to traverse the Bitcoin network and generate statistics based on that. With the tool, average peer list contains addresses that mostly reside in the own autonomous systems of the peers. Therefore, the authors claim that transaction linking could be possible (Feld, Schönfeld, & Werner, 2014).

Also, various studies have been done to increase the privacy, and the use of various address mixer algorithms has been presented. Herrera-Joancomartí offers one of them. He proposed a mix of services to solve the anonymity reduction. Some trials are examined to see the services. A proposed mixing transaction enables the users to move Bitcoins from sender's address to the client without a clear trace linking between addresses. Such transactions can help to improve anonymity when transaction linking becomes more challenging (Herrera-Joancomartí, 2015). There are more examples like Coin Party, a decentralised mixing service for Bitcoin based on a combination of decryption mix-nets with threshold signatures (Ziegeldorf, Grossmann, Henze, Inden, & Wehrle, 2015). One of the most remarkable applications is the Zero Coin (Ezc) plugin, which has been proposed to hide the transaction value and address balances at Bitcoin for increased privacy. Zero Coin acts as a temporary currency to block the



traceability of money but does not hide the transaction and balance number of Bitcoin addresses. Suggested improvements include mixing Bitcoins before they reach a destination from a variety of sources, and mixing EZC style payments before they need to be recycled back to Bitcoin (Androulaki & Karame, 2014). The examples listed show that Blockchain lacks in data privacy. In order to overcome these shortcomings, we can say that there are still open points and that the number of works needs to be increased.

### **3. CONCLUSION**

With Bitcoin's attack in finance, a new wind began to flow in the stock market, and with the emergence of many new crypto money, the crypto money market has become a new area of finance. Although Blockchain technology is the technological infrastructure of Bitcoin, awareness is not as high as Bitcoin. Despite it was found in 1992, its first use was in the shadow of Bitcoin, influenced by the fact that it was with Bitcoin in 2008. However, due to the features that it provides; Without Blockchain technology, the Bitcoin system would not work. As the dazzling offer of Bitcoin; through the decentralised structure, buyers and sellers can meet directly on a platform and make their purchases securely, without the involvement of any third party. The reason for the interest in Blockchain is that it enables clients and providers to operate directly with each other securely without the need for a third party to approve. All transactions are kept in a distributed database using cryptography so that this exchange between client and provider can be done securely. In order to be able to modify this distributed database, the relevant changes must be recorded on all computers in the system. In order to succeed in any chain of cyber-attacks, it is necessary to verify over more than 50% of the computers, which makes the probability of successful attacks almost impossible. Advantages such as security, no-intermediation, transparency in data acquisition make Blockchain technology attractive. Besides of all these advantages, there are some issues that need to be addressed for Blockchain technology. These can be listed as throughput, latency in processing, size and bandwidth, some security vulnerabilities, resource waste for adding a new block to chains, usability, and privacy. In this article, we will discuss these issues that need to be addressed for Blockchain technology. Throughput is the first issue that needs to be handled. In order to compete with big actors of finance sector like VISA, Blockchain network needs to increase its current level from 7 tps to a higher level. Similarly, latency is another point that should be improved to rival with companies like VISA. Size and Bandwidth of the system will be a problem when the usage of the system is increased. Thus, the limitation, in that case, needs to be disappeared. Because of PoW validation method, energy consumption is pretty high. Therefore, alternative consensus methods or improvement in PoW method is needed to avoid energy waste. Also because verification in the system with PoW method can only be done by approving by more than 50% of the participants, the majority of the mining pool being seized by a single user may damage the concept of decentralised structure. Usability of the system is needed to be developed in order to have a standardised user-friendly infrastructure. Lastly, although Blockchain serves users to a transparent system that all transactions could be seen by participants, it may lead to a lack of data privacy. The privacy of the

data should be developed for situations such as deciphering the addresses of the participants.

To summarize, the continued success of Blockchain technology is vital for Bitcoin and other cryptographic currencies survival. Beside of all advantages, there are some restrictions on Blockchain to be solved. The number of efforts to remove these restrictions should be increased. Besides, with the increase in the number and application of new types of applications being developed, technically problematic points related to technology will become clearer and faster to be removed. This will speed up the maturity of technology and increase the value of crypto money like Bitcoin.

## REFERENCES

- Ali, M.; Nelson, J.; Labs, B.; Shea, R.; Labs, B.; Freedman, M. J., & Freedman, M. J. (2016). Blockstack : A Global Naming and Storage System Secured by Blockchains. *USENIX Annual Technical Conference*, 181–194. Retrieved from <https://www.usenix.org/conference/atc16/technical-sessions/presentation/ali>
- Androulaki, E., & Karame, G. O. (2014). Hiding transaction amounts and balances in Bitcoin. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 8564 LNCS, 161–178. [https://doi.org/10.1007/978-3-319-08593-7\\_11](https://doi.org/10.1007/978-3-319-08593-7_11)
- Bitcoin Hashrate. (2018). Retrieved from <https://blockchain.info/tr/pools> (20.07.2018).
- Bitcoinwiki. (2018a). Block. Retrieved from <https://en.bitcoin.it/wiki/Block> (21.07.2018).
- Bitcoinwiki. (2018b). Proof of Stake. Retrieved from [https://en.bitcoin.it/wiki/Proof\\_of\\_Stake](https://en.bitcoin.it/wiki/Proof_of_Stake)(21.07.2018).
- Conoscenti, M., & Carlos De Martin, J. (2016). Blockchain for the Internet of Things: a Systematic Literature Review. *The Third International Symposium on Internet of Things: Systems, Management and Security*, 1–6. <https://doi.org/10.1109/AICCSA.2016.7945805>(24.07.2018).
- Eyal, I., Gencer, A. E., Sirer, E. G., & van Renesse, R. (2015). Bitcoin-NG: A Scalable Blockchain Protocol. <https://doi.org/abs/1510.02037>(21.07.2018).
- Feld, S., Schönfeld, M., & Werner, M. (2014). Analysing the deployment of bitcoin's P2P network under an as-level perspective. *Procedia Computer Science*, 32, 1121–1126. <https://doi.org/10.1016/j.procs.2014.05.542>
- Herrera-Joancomart', J. (2015). Data privacy management, autonomous, spontaneous security, and security assurance. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 8872, 3–16. <https://doi.org/10.1007/978-3-319-17016-9>
- Hyperledger. (2018a). Hyperledger Community. Retrieved, from <https://www.hyperledger.org/announcements/2017/07/25/hyperledger-adds->

- cisco-as-a-premier-member(18.07.2018).
- Hyperledger. (2018b). Hyperledger Projects - Hyperledger. Retrieved, from <https://www.hyperledger.org/projects>(18.07.2018).
- Investopedia. (2018). Double-Spending Definition. Retrieved, from <https://www.investopedia.com/terms/d/doublespending.asp>(21.07.2018).
- Kasey Panetta. (2017). Top Trends in the Gartner Hype Cycle for Emerging Technologies, 2017 - Smarter With Gartner. Retrieved from <https://www.gartner.com/smarterwithgartner/top-trends-in-the-gartner-hype-cycle-for-emerging-technologies-2017/>(21.07.2018).
- Koshy, P., Koshy, D., & McDaniel, P. (2014). An analysis of anonymity in bitcoin using P2P network traffic. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 8437, 469–485. [https://doi.org/10.1007/978-3-662-45472-5\\_30](https://doi.org/10.1007/978-3-662-45472-5_30)
- Mattila, J. (2016). The Blockchain Phenomenon The Disruptive Potential of Distributed Consensus Architectures. *ETLA Working Papers*, 38(May 2016), 26. <https://doi.org/10.1098/rsnr.2016.0036>
- Mooney, C. (2011). The Truth About. *Scientific American*, (August), 80–85. <https://doi.org/10.1016/j.annals.2005.11.001>
- Nakamoto, S. (2008). Bitcoin: A Peer-to-Peer Electronic Cash System, 9. <https://doi.org/10.1007/s10838-008-9062-0>
- Tasca, P., & Tessone, C. J. (2017). Taxonomy of Blockchain Technologies. Principles of Identification and Classification. <https://doi.org/10.2139/ssrn.2977811>
- The Economist. (2015). The great chain of being sure about things - Blockchains. Retrieved June 14, 2018, from <https://www.economist.com/briefing/2015/10/31/the-great-chain-of-being-sure-about-things>
- Vitalik Buterin. (2016). Privacy on the Blockchain. Retrieved from <https://blog.ethereum.org/2016/01/15/privacy-on-the-blockchain/>(21.07.2018).
- Yli-Huomo, J., Ko, D., Choi, S., Park, S., & Smolander, K. (2016). Where is current research on Blockchain technology? - A systematic review. *PLoS ONE*, 11(10), 1–27. <https://doi.org/10.1371/journal.pone.0163477>
- Ziegeldorf, J. H., Grossmann, F., Henze, M., Inden, N., & Wehrle, K. (2015). CoinParty: Secure Multi-Party Mixing of Bitcoins. *Proceedings of the 5th ACM Conference on Data and Application Security and Privacy*, 75–86. <https://doi.org/10.1145/2699026.2699100>

## **The Relationship between Financial Failure and Cash Flow Profiles in Businesses: An Application on BIST Manufacturing Industry Enterprises**

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### **Abstract**

Financial failure involves an ongoing process ranging from the inability to pay short-term debts to the bankruptcy. Given this situation, it can be said that the cash flows of the enterprises can provide important insights about financial failure.

In this study, cash flow profiles and financial success status of businesses operating in the BIST manufacturing industry sector were examined. Businesses were classified by cash flows from operating activities, investment activities and financing activities. As a measure of financial failure,

- Current year net loss,
- The loss of half of the capital,
- The loss of %10 of total assets
- Negative net working capital; were adopted.

The relationship between cash flow profiles and the risk of financial failure was analysed statistically by independent samples t-test, correlation and cross table analysis methods. The findings show that; there is a statistically significant relation between cash flow profiles and financial failure criteria which are the loss of half of the capital, the loss of %10 of total assets and negative net working capital. Otherwise, no statistically significant relationship was observed between current year net loss and cash flow profiles.

As a result, it was concluded that the cash flow profiles of businesses are related to financial failure cases in the following periods.

**Keywords:** Financial failure, Cash flows, Cash flow profiles

### **1. INTRODUCTION**

Along with globalisation, the role of enterprises in the economy has also changed. The financial performance of a business affects its partners and employees, as well as its competitors, suppliers, lenders, potential investors, and businesses in different business lines with which the business is in contact. These individuals and organisations need financial information in their decisions regarding the business. In other words, the number of those who need financial information produced by the business increases over time.

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Businesses are established for purposes such as making a profit, maintaining their existence and serving society. However, the profit and the survival of businesses depend on their financial conditions and financial performance. A business that cannot meet its financial obligations has a very low chance of making a profit and maintaining its profitability. Bankruptcy and liquidation emerge as an inevitable result in businesses that cannot ensure financial sustainability.

Due to the concept of continuity of a business, the life of a business is assumed to be unlimited. However, for various reasons, businesses are liquidated, and their life ends. This can be considered to be a failure. Failure in businesses can be addressed under two main headings, being an economic failure and financial failure (Selimoğlu & Orhan, 2015, p. 25.)

Economic failure is defined as the inability of the business to cover the expenses arising from the operational activities (Baş & Çakmak, 2012, p. 64.)

Financial failure includes a process starting with the failure to fulfil due obligations and extending towards liquidation in businesses (Aktaş, 1997, p. 5). Detection of failure signals in the early stages of the process and taking necessary measures are of vital importance for businesses.

The first stage of financial failure is suffering from working capital shortage. This situation causes daily operations to fail in the business. This is followed by short-term debt payment difficulties and the process results in liquidation. As can be seen, effective cash management can help business managers avoid financial failure because problems related to working capital and fulfilment of short-term liabilities can be solved with an effective cash management approach. This relationship between cash management and financial failure increases the importance of information to be taken from cash flow statements.

In the current study, it was aimed to measure the relationship between financial failure and cash flow profiles of 179 businesses in the BIST Manufacturing Sector by investigating their financial statements. The data of the study were obtained from the independently audited financial statements organised according to Turkey Accounting Standards and published in the website of the Public Disclosure Platform. First of all, the cash flow profiles of the businesses were determined by their 2016 cash flow statements. Then, the businesses were divided into two groups as financially successful and unsuccessful based on their 2017 balance sheet and income statement data. Then, the relationship between financial failure status and cash flow profiles of the businesses was analysed by t-test, correlation and decision trees technique.

## **2. FINANCIAL FAILURE**

Financial failure is a broad concept that covers the stages such as the inability of the business to perform its daily activities, the inability to pay due debts, the loss of assets and the bankruptcy. Examples of financial failure indicators include the following (Aktaş et al., 2003: 12.):

- Bankruptcy,
- Loss of half of the capital,
- Loss of 10% of the business assets,
- Loss declared for three consecutive years,
- Difficulty in paying debts,
- Stopping production,
- Debts are exceeding total assets.

Foreseeing a financial failure is of great importance for both the business and people and organisations that are in contact with the business. The parties to be affected by the financial failure of a business can be listed as follows:

- Business partners
- Business employees
- Suppliers
- Purchasers
- Competitors
- Creditors
- Potential investors
- Customers
- Other people and organisations associated with the business.

Studies on predicting a financial failure started in the 1960s, and continue today.

Beaver (1966) grouped 30 financial ratios into six groups and performed a single discriminant analysis for each ratio. As a result of the study, it was determined that the cash flow / total debt ratio could be used to predict financial failure.

In his study, Altman (1968) examined the financial ratios of 66 manufacturing businesses through the multiple discriminant analysis methods and developed the Z Score model consisting of five ratios that can be used to predict financial failure. This study of Altman showed a successful classification performance in the prediction of financial failure by 95% for one year before and 72% for two years before.

Keasey & McGuinness (1990) attempted to measure the probability of financial failure of manufacturing businesses operating in England in 1976-1984. In this research, logistic analysis and entropy measures techniques were used. As a result of the analysis, it has been found that the profitability and efficiency ratios in both techniques give insights for the prediction of financial failure.

Platt & Platt (2002) tried to estimate the financial failure possibilities of automotive supply companies in their study. In their analysis using logistic regression technique, 92% of financially failed enterprises were classified correctly.

Selimoğlu & Orhan (2015) aimed to determine the financial ratios that can be used in the measurement of the financial failure of businesses operating in the textile sector in BIST. As a result of the multivariate analysis, it was found that seven ratios yielded significant results. The success ratio of the technique used was reported to be 92%.

### 3. CASH FLOWS

Cash flows play an important role in the day-to-day operations of the business and in making the due payments. Details of cash-based transactions such as payments and collections in businesses are reached from the cash flow statement. The cash flow statement is prepared on a cash basis. This table focuses on cash flows from operating, investment and financing activities (Orhan & Başar, 2015, p. 109).

The cash flow statement according to International Financial Reporting Standards consists of 3 sections. These sections can be listed as follows:

- Cash flows related to operational activities,
- Cash flows related to investing activities,
- Cash flows related to financing activities.

Cash flows related to operating activity refers to cash inflows and outflows from main activities. Cash inflows and outflows related to purchase and sale of goods and production costs are reported in this group.

Cash flows related to investment activities provide information about the plans of the business. Real estate, plant, machinery, etc. cash inflows and outflows related to purchase and sale are reported in this group.

Cash flows related to financing activity show cash movements that lead to changes in the resource structure of the business. Cash inflows and outflows arising from transactions such as debts and repayments of debts, interest payments, cash inflows from the stock sale, dividend payments are reported in this group.

Gup et al. (1993), in their study, subsumed the businesses' cash flows resulting from three different areas of operation under eight different models by classifying them as positive and negative. This classification made considering which activities lead to the cash inflows and which activities lead to cash outflows is given in Table 1.

**Table 1.** Cash Flow Profiles

Cash Flow Profile	Cash Flows		
	<i>Operations</i>	<i>Investing</i>	<i>Financing</i>
<i>Model 1</i>	+	+	+
<i>Model 2</i>	+	-	-
<i>Model 3</i>	+	+	-
<i>Model 4</i>	+	-	+
<i>Model 5</i>	-	+	+
<i>Model 6</i>	-	-	+
<i>Model 7</i>	-	+	-
<i>Model 8</i>	-	-	-

#### 4. METHOD

At first, cash flow profiles were determined. Businesses were classified into the relevant cash flow profile according to the data obtained from the 2016 cash flow statements. Information about the cash flow profiles of the businesses is given in Table-2.

**Table 2.** 2016 Cash Flow Profiles of Businesses

Cash Flow Profile	Number	Per cent
<i>Model1</i>	0	0.00%
<i>Model2</i>	71	39.66%
<i>Model3</i>	20	11.17%
<i>Model4</i>	40	22.35%
<i>Model5</i>	16	8.94%
<i>Model6</i>	24	13.41%
<i>Model7</i>	0	0.00%
<i>Model8</i>	8	4.47%
<i>Total</i>	179	100.00%

It is seen that a high majority of the businesses in Model 2, and there is no business in Model 1 and Model 7. This shows that the majority of the businesses in the sector are in their mature period. Cash flows resulting from operations of the businesses located in Model 2 are positive, and their cash flows from investing and financing activities are negative. This means that businesses make profits from their main activities, invest in fixed assets and pay their debts. As Model 1 is a rare profile, it is considered normal not to have any business in this profile. Model 7 is a cash flow profile, usually involving businesses in the liquidation phase.

The numerical and proportional magnitudes of the successful and unsuccessful businesses in each cash flow profile were examined. A summary of the classification of the financial failure status of the businesses by cash flows is given in Table 3.

**Table 3.** Cash Flow Profiles Classified by Financial Failure

Cash Flow Profile	Successful		Failure	
	<i>Number</i>	<i>Per cent</i>	<i>Number</i>	<i>Per cent</i>
<i>Model 2</i>	55	77,5	16	22.5
<i>Model 3</i>	16	80,0	4	20.0
<i>Model 4</i>	8	20,0	32	80.0
<i>Model 5</i>	0	0,0	16	100.0
<i>Model 6</i>	8	33,3	16	66.6
<i>Model 8</i>	0	0,0	8	100.0



Most of the businesses in Model 2 and Model 3 are financially successful. The common point of both profiles is that while cash inflow occurs from business activities and cash outflow occurs from financing activities. Accordingly, it can be said that the businesses that can provide cash inflow from the main activities and pay their debts are less likely to fail financially.

It is seen that all the businesses in Model 5 and Model 8 are in financial failure. The common point of these two models is that cash outflow occurs from business operations. Since one of the financial failure criteria is “the declaration of loss for the current year”, it is normal for the businesses in these two profiles to be classified as financially unsuccessful.

The t-test was applied for statistical analysis of the relationship between the financial success or failure of the businesses and the cash flows. Financial failure criteria and cash flow profiles were compared. The results of t-test comparing the cash flow profile of the businesses with their financial success status are shown in Figure 1.

**Figure 1.** The Relation with Cash Flow Profiles and Financial Failure

**T-Test**

Group Statistics

	BASARI	N	Mean	Std. Deviation	Std. Error Mean
MODEL	BASARILI	87	2,74	1,224	,131
	BASARISIZ	92	4,48	1,674	,175

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
MODEL	Equal variances assumed	1,492	,181	-7,913	177	,000	-1,743	,220	-2,177	-1,308
	Equal variances not assumed			-7,980	166,655	,000	-1,743	,218	-2,174	-1,312

According to the results of the analysis, the two groups show normal distribution, and there is a significant relationship between the cash flow profile of the businesses and their financial failure status.

The results of the t-test, in which the relationship between the cash flow profile of the businesses and the current year profit or loss was analysed, is shown in Figure 2.

**Figure 2.** The Relation with Cash Flow Profiles and Current Year Profit or Loss

**T-Test**

Group Statistics

		N	Mean	Std. Deviation	Std. Error Mean
MODEL	KAR	147	3,18	1,380	,114
	ZARAR	32	5,69	1,575	,278

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
MODEL	Equal variances assumed	1,007	,317	-9,064	177	,000	-2,504	,276	-3,049	-1,959
	Equal variances not assumed			-8,325	41,982	,000	-2,504	,301	-3,111	-1,897

According to the results of the analysis, the two groups show normal distribution, and there is a significant relationship between the cash flow profile of the businesses and their current year profit or loss.

The results of the t-test conducted to analyse the relationship between the cash flow profile of the businesses and the state of having lost half of their capital are shown in Figure 3.

**Figure 3.** The Relation with Cash Flow Profiles and the Loss of Half of the Capital

**T-Test**

Group Statistics

	SERKAYIP	N	Mean	Std. Deviation	Std. Error Mean
MODEL	NORMAL	117	3,52	1,950	,180
	KAYIP	62	3,84	1,104	,140

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
MODEL	Equal variances assumed	32,918	,000	-1,184	177	,238	-,317	,268	-,846	,212
	Equal variances not assumed			-1,389	176,185	,167	-,317	,228	-,768	,133

According to the results of the analysis, the two groups do not show normal distribution, and there is no significant relationship between the cash flow profile of the businesses and the state of having lost half of their capital.

The results of the t-test conducted to analyse the relationship between the cash flow profile of the businesses and the state of having lost 10% of their total assets are shown in Figure 4.

**Figure 4.** The Relation with Cash Flow Profiles and the Loss of 10% of Total Assets

**T-Test**

Group Statistics					
	VARİKAYIP	N	Mean	Std. Deviation	Std. Error Mean
MODEL	NORMAL	124	3,55	1,897	,170
	KAYIP	55	3,82	1,172	,158

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper
MODEL	Equal variances assumed	20,181	,000	-,975	177	,331	-,270	,277	-,816 ,277
	Equal variances not assumed			-,1161	158,475	,247	-,270	,232	-,729 ,189

According to the results of the analysis, the two groups do not show normal distribution, and there is no significant relationship between the cash flow profile of the businesses and the state of having lost 10% of their total assets.

The results of the correlation analysis run to test the relationship between the cash flow profile of the businesses and the criteria of financial failure are given in Figure 5.

**Figure 5.** Correlations with Cash Flow Profiles and Financial Failure Criteria

		Correlations				
		MODEL	BASARI	KARZARAR	SERKAYIP	VARİKAYIP
MODEL	Pearson Correlation	1	-,511**	-,563**	-,089	-,073
	Sig. (2-tailed)		,000	,000	,238	,331
	N	179	179	179	179	179
BASARI	Pearson Correlation	-,511**	1	,454**	,708**	,648**
	Sig. (2-tailed)	,000		,000	,000	,000
	N	179	179	179	179	179
KARZARAR	Pearson Correlation	-,563**	,454**	1	,151*	,195**
	Sig. (2-tailed)	,000	,000		,044	,009
	N	179	179	179	179	179
SERKAYIP	Pearson Correlation	-,089	,708**	,151*	1	,915**
	Sig. (2-tailed)	,238	,000	,044		,000
	N	179	179	179	179	179
VARİKAYIP	Pearson Correlation	-,073	,648**	,195**	,915**	1
	Sig. (2-tailed)	,331	,000	,009	,000	
	N	179	179	179	179	179

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

According to the results of the analysis, there is a significant relationship between the cash flow profile of the businesses and their financial failure and profit or loss. It was found that the relationship between the cash flow profiles and these two variables was

negative and moderate. The relationship between the variables yields significant results at 1% confidence level.

The results of the decision tree technique in which the businesses are classified as financially successful or unsuccessful according to their cash flow profile are given in

**Table 4.** Decision Tree Classification Results

Observed	Predicted		
	<i>Failure</i>	<i>Successful</i>	<i>Percent Correct</i>
<i>Failure</i>	72	20	78,3%
<i>Successful</i>	16	71	81,6%
<i>Overall Percentage</i>	49,2%	50,8%	79,9%

It is seen that the decision tree model correctly classified 78.3% of the financially unsuccessful businesses and 81.6% of the financially successful businesses. The general classification success of the model was calculated to be 79.9%.

#### 4. RESULTS AND CONCLUSION

Majority of the businesses have the Model 2 cash flow profile. Of the 179 businesses analysed here;

- One hundred thirty-one were able to generate cash inflow from their operations.
- 48 experienced cash outflow from their operations.
- Thirty-six were able to generate cash inflow from their investing activities.
- 143 experienced cash outflow from their investing activities.
- Eighty were able to generate cash inflow from their financing activities.
- 99 experienced cash outflow from their financing activities.

The fact that majority of the businesses are in Model 2 shows that majority of the businesses in the sector are in their maturity period because Model 2 is named as the “successful business” profile in the literature.

According to the results obtained through the classification of the cash inflows and outflows generated from operations:

- The financial failure ratio of the businesses generating cash inflows from their operations is 39%.
- The financial failure ratio of the businesses generating cash inflows from their investing activities is 55%.
- The financial failure ratio of the businesses generating cash inflows from their financing activities is 80%.

The statistical analyses conducted in the current study have revealed that there is a significant correlation between the cash flow profile of the businesses and their states of financial success/failure and profit/loss; yet, that there is no significant correlation between loss of assets and loss of capital.

In order to reduce the risk of financial failure in businesses;

- Cash inflows should be primarily generated from operations,
- Fixed asset investments should primarily be covered from equity and in the case of insufficient equity, from long-term liabilities,
- Inactive assets should be redirected to alternative investments that can generate income,
- Financial leverage should be kept as low as possible,
- Inactive business assets should be sold or leased to enable cash inflow in the business.

## REFERENCES

- Aktaş, R. (1997). *Mali başarısızlık (işletme riski) tahmin modelleri*, Ankara: İş Bankası Kültür Yayınları.
- Aktaş, R., Doğanay, M. & Yıldız, B. (2003). Mali başarısızlığın öngörülmesi: istatistiksel yöntemler ve yapay sinir ağı karşılaştırması, *Ankara Üniversitesi Siyasal Bilgiler Fakültesi Dergisi*, 58(4), 1-24.
- Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance*, 23(4), 589-609.
- Baş, M. & Çakmak, Z. (2012). Gri ilişkisel analiz ve lojistik regresyon analizi ile işletmelerde finansal başarısızlığın belirlenmesi ve bir uygulama. *Anadolu Üniversitesi Sosyal Bilimler Dergisi*, 12(3), 63-82.
- Beaver, W.H. (1966). Financial ratios as predictors of failure. *Journal of Accounting Research*, 4, 71-111.
- Gup, B.E.; Samson, W.D.; Dugan, M.T.; Kim, M.J. & Jittrapanun, T. (1993). An analysis of patterns from the statement of cash flows. *Financial Practice and Education*, 3(2), 73-79.
- Keasey, K. & McGuinness, P. (1990). The failure of UK industrial firms for the period 1976-1984, logistic analysis and entropy measures. *Journal of Business Finance & Accounting*, 17(1), 119-135.
- Orhan, A. & Başar, A.B. (2015). İşletmelerde nakit akış profilleri ve analizi: BIST 100 işletmeleri üzerine bir uygulama. *Muhasebe ve Vergi Uygulamaları Dergisi*, 8(2), 107-122.
- Platt, H.D. & Platt, M.B. (2002). Predicting corporate financial distress: Reflections on choice-based sample bias. *Journal of Economics and Finance*, 26(2), 184-199.
- Selimoğlu, S. & Orhan, A. (2015). Finansal başarısızlığın oran analizi ve diskriminant analizi kullanılarak ölçülmesi: BİST’de işlem gören dokuma, giyim eşyası ve deri işletmeleri üzerine bir araştırma. *Muhasebe ve Finansman Dergisi*, 66, 21-40.

## Utjecaj Procesa Klasterizacije na Konkurentnost Malih i Srednjih Hotelskih Poduzeća

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### Abstract

Procesi poslovne saradnje postali su nezaobilazan i dominantan globalni ekonomski trend koji obuhvaća mala i srednja hotelska preduzeća na izuzetno dinamičnom turističkom tržištu. Upravo se kod ovih hotelskih preduzeća mogu na pravi način uvidjeti prednosti udruživanja u klastere u funkciji podizanja njihove konkurentnosti i kvalitete poslovanja. U radu se analizira porast konkurentnosti malih i srednjih hotelskih preduzeća u Hrvatskoj, potaknut procesom klasterizacije i zajedničke saradnje kao pretpostavke stvaranja konkurentnog hotelskog proizvoda na turističkom tržištu. Kako bi se istražila važnost klasterizacije za podizanje konkurentnosti te ostvarivanje drugih prednosti, kao i utjecaj na kvalitet poslovanja, te analizirao utjecaj poslovne saradnje s poljoprivrednim proizvođačima na konkurentnost hotelskih preduzeća, provedeno je anketno istraživanje 2016. godine na uzorku od 107 malih i srednjih hotelskih preduzeća u Republici Hrvatskoj. U radu su postavljene dvije hipoteze da je klasterizacija važan faktor u povećanju konkurentnosti i kvaliteta poslovanja malih i srednjih hotelskih preduzeća te da je udruživanje u klastere s poljoprivrednim proizvođačima faktor povećanja konkurentnosti malih i srednjih hotelskih preduzeća. Istraživanje je pokazalo da proces klasterizacije značajno utječe na povećanje konkurentnosti malih i srednjih hotelskih preduzeća na turističkom tržištu kao i na njihov kvalitet poslovanja. Također se analizom došlo do zaključka da poslovna saradnja malih i srednjih hotelskih preduzeća s poljoprivrednim proizvođačima ima značajan utjecaj na konkurentnost.

**Keywords:** Mala i srednja hotelska preduzeća; Proces klasterizacije; konkurentnost; poljoprivredni proizvođači; Gostoprimstvo

### UVOD

Mala i srednja preduzeća su vrlo dinamična, ali i izložena raznim vanjskim prijetnjama zbog neodgovarajućih sposobnosti i ograničenih resursa. Zbog ograničenih resursa, kako finansijskih tako i nefinansijskih, malim i srednjim preduzećima nedostaje odgovarajućih organizacijskih obilježja, kao što su odgovarajući stručnjaci, visoka stopa rizika, nedostatak informacija o tržišnim prijetnjama i neekonomija razmjera. Stoga, kako bi se prevladale te prepreke mala i srednja preduzeća su prisiljena osloniti se na saradnju s drugim preduzećima i pojedincima te se strateški udružuju. Strateško udruživanje se odnosi na grupe preduzeća i pojedinih subjekata koji zajedničkim naporima žele postići konkurentne prednosti, dok bi pojedinačnim naporima takvo

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postizanje bilo vrlo teško. Zajedničkim strateškim udruživanjem mala i srednja preduzeća bi lakše i bezbolnije mogla riješiti gore navedene probleme. Mala i srednja preduzeća, koja koriste neki od oblika udruživanja, su shvatila da ulaženjem u strateško udruženje sa svojim konkurentima, dobavljačima i kupcima, kao i preduzećima u drugim djelatnostima, im se omogućuje da ojačaju svoje unutarnje slabosti. Danas je prisutno više teorija konkurentnosti, među kojima je Porterova "Konkurentna prednost nacija" najšire prihvaćena i prema kojoj nacionalno blagostanje nije nasljeđe, već je stvoreno strateškim izborima na mikroekonomskoj razini. Porter je dao okvir za unapređenje ekonomske konkurentnosti lokalne i nacionalne ekonomije. U njegovim analizama lokalni faktori, kao što su primjerice zaštita životne sredine, znanje i motivacijski faktori čine važan doprinos uspjehu individualnih preduzeća. Porter naglašava potrebu stabilne političke sredine u kojoj se omogućuje preduzećima da efektivno posluju i proizvode proizvode u skladu sa potrebama tržišta, u poslovnom okruženju sa lokalnim dobavljačima, odgovarajućom infrastrukturom, obrazovnim institucijama i ljudskim potencijalima. U tom procesu, klasteri zauzimaju centralno mjesto. Prema Izvješću o globalnoj konkurentnosti (Global Competitiveness Report) iz 2017. godine, Hrvatska je na 74. mjestu od 137 zemalja s obzirom na razvoj klastera u zemlji. Klasteri u hotelijerstvu imaju važan utjecaj na svoje članove, uključujući pristup lokalnim dobavljačima, poljoprivrednicima i gospodarskim i negospodarskim subjektima važnim za turističku djelatnost. Udruživanje u klastere hotelska preduzeća vodi k smanjenju troškova, podršci javnih i lokalnih institucija, ulaganju stranog kapitala, otvaranju novih preduzeća, zapošljavanju, inovativnosti, konkurentnosti i jačanju međuregionalne saradnje. Klasteri u hotelijerstvu mogu kreirati većinu mogućnosti za razvoj regija ili područja na kojima posluju, ubrzavajući tehnološki napredak i razvoj, zbog sinergijskih učinaka. Hotelskim preduzećima kao sastavnim dijelovima klastera omogućuje se niz prednosti u poslovanju: mogu brže i lakše pristupiti tržišnim informacijama; postoji mogućnost jednostavnijeg i troškovno efikasnijeg dobijanja specijaliziranih inputa i tehničke podrške; moguće je sudjelovanje zajednički prilikom velikih narudžbi; omogućeno im je jačanje tržišnog razvoja i nižih promocijskih troškova; korištenje grupnog prevoza u cilju minimiziranja transportnih troškova i podjele troškova za ISO certifikate.

## 1. PREGLED LITERATURE

Klaster je dinamična pojava i stoga ga je teško definirati zbog njegove kompleksnosti i ekonomske multidimenzionalnosti. Prema Porteru (Porter, 1998). klaster je u ekonomskom smislu i kontekstu "geografski bliska skupina međusobno povezanih preduzeća i institucija iz povezanih djelatnosti". Smatraju se jednim od najvažnijih oblika za razvoj organizacijske proizvodnje i važnim simulatorima za osnivanje novih preduzeća i stvaranja novih radnih mjesta, i kao takvi se percipiraju kao važni pokretači gospodarskog rasta. Prvotno su klasteri bili povezani s naprednim gospodarstvima, da bi se nakon 2000. godine pojam klastera javio i u tranzicijskim gospodarstvima (Dragusin; Constantin & Petrescu, 2010). Klasterizacija je dovela do

povećanja interesa ne samo na političkim i ekonomskim razinama, nego i u akademskim institucijama, što je dovelo do brojnih istraživanja koja su pokazala potencijal ovog procesa kao glavnog razvojnog alata za buduće poslovanje preduzeća. Mala i srednja preduzeća su vrlo dinamična, ali i izložena raznim vanjskim prijetnjama zbog neodgovarajućih sposobnosti i ograničenih resursa. Zbog ograničenih resursa, kako financijskih tako i nefinancijskih, malim i srednjim preduzećima nedostaje odgovarajućih organizacijskih obilježja, kao što su odgovarajući stručnjaci, visoka stopa rizika, nedostatak informacija o tržišnim prijetnjama i neekonomija razmjera (Gurrieri, 2013). Stoga, kako bi se prevladale te prepreke mala i srednja preduzeća su prisiljena osloniti se na saradnju sa drugim preduzećima i pojedincima te se udružuju u klastere. Mala i srednja preduzeća, koja se udružuju u klastere shvatila su da udruživanjem sa svojim konkurentima, dobavljačima i kupcima, kao i preduzećima u drugim djelatnostima, im se omogućuje da ojačaju svoje unutarnje slabosti (Segarra-Oña, et.al., 2012). Broj članova unutar klastera važan je za održivi razvoj klastera u hotelijerstvu (Erkuş-Öztürk, 2011). Sa tog aspekta razvoj preduzeća u hotelijerstvu uz pomoć klasterskog modela povezivanja preko turističkih agencija i lokalnih poljoprivrednika, predstavlja svakako značajan faktor njihova opstanka, kao i povećanja njihove konkurentnosti. Razvoj klastera regionalni je odgovor na konkurenciju koja se razvila globalizacijom (Hsieh & Lee, 2012). Klasteri u hotelijerstvu pripadaju uslužnim klasterima i mogu biti potaknuti prirodnim obilježjima područja na kojem posluju (Lee-Ross & Lashley, 2010). U hotelijerstvu su klasteri uglavnom neformalni stoga su i poslovni odnosi unutar njih slabiji i plitki (Hsieh & Lee, 2012). Ovakvi klasteri kada se suočavaju sa ekonomskom krizom stabilni su i manje osjetljivi na nju. Učinci klastera na hotelijerstvo su pozitivni, a njihova prisutnost je ključni dio atraktivnosti destinacije. Klasteri u hotelijerstvu mogu nastati prirodno, ali funkcionalna analiza koncentracije hotelskih preduzeća dokazuje da oblik i razvoj klastera ovisi u znatnoj mjeri o inicijativama koje lokalna preduzeća i lokalne uprave povezane sa postojećim prirodnim resursima i potencijalima poduzimaju (Dragusin; Constantin & Petrescu, 2010). Evidentan je razvoj turističkih klastera u zemljama u razvoju, gdje klaster predstavlja mogućnost za udruživanje različitih gospodarskih i negospodarskih subjekata. Najznačajniji turistički klaster je nastao na Azurnoj obali, kao rezultat razvoja poljoprivrednog klastera koji je tražio tržište za plasman viška prehrambenih proizvoda (Hsieh & Lee, 2012). Nekoliko je klastera u hotelijerstvu u razvijenim zemljama koji su rangirani od tri do jedne zvjezdice, npr., Italija s 12 prepoznatih klastera, Španjolska s 8 klastera, Austrija sa 6 klastera, Francuska i Švicarska s 4 klastera svaka i Njemačka s 2 klastera.<sup>3</sup> Većina njih su samo aglomerati koji su ograničili povezivanje među članovima klastera i posluju isključivo na formalnim osnovama. Ekonomski oblik koji omogućuje regionalni razvoj kroz postizanje inovativnosti, veće produktivnosti, konkurentnosti i izvozne orijentacije gospodarstva su klasteri (Erkuş-Öztürk, 2011). Za postizanje takvih rezultata zadužena je komplementarna grupacija gospodarskih i negospodarskih subjekata i institucija koje povezuje isti interes. Stoga je model klasterizacije u turizmu

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<sup>3</sup> [www.clusterobservatory.eu](http://www.clusterobservatory.eu) (21.03.2018.)



prihvaćen širom svijeta, kao moćan okvir za održivi razvoj destinacije s ekonomskog, društvenog i ekološkog stajališta. Sposobnost pružanja veće vrijednosti kroz model klastera, omogućava regiji da putem brojnih aktivnosti u "turističkom lancu vrijednosti" bude konkurentnija i da očekuje bolje poslovne rezultate. Iniciranje, organizacija i implementacija turističkih klastera u razvijenim zemljama Europe i onima u razvoju je bitno različita, kako zbog različite ekonomske razvijenosti, tako i zbog različitog stupnja društvenog kapitala. Pojam klastera je prilagođen specifičnim karakteristikama turističke djelatnosti čiji se proizvod uspostavlja na razini destinacije u zajedničkoj aktivnosti hotelskih poduzeća i drugih subjekata uključenih u turistički proizvod (Erkuş-Öztürk, 2011). Regionalna i nacionalna konkurentnost lokalnih preduzeća u globalnim uvjetima poslovanja, sve više ovisi o sposobnosti međusobne saradnje na lokalnoj razini. Prema tome se konkurentnost jedne turističke destinacije u odnosu na drugu sve više mjeri efikasnošću njenih klastera. U tipičnom turističkom klasteru, npr., kvaliteta doživljaja posjetilaca ovisi ne samo o privlačnosti primarnih atrakcija (plaže i povijesna mjesta), nego također i o kvaliteti i djelotvornosti komplementarnih poslova kao što su hoteli, restorani, trgovački distributeri i transportni kapaciteti (Segarra-Oña, et.al., 2012). Klasteri pospješuju konkurentnost na sljedeće načine (Šarić, 2012): stimulirajući otvaranje novih preduzeća, povećavajući produktivnost preduzeća u klasteru i unoseći inovativnost u djelatnost poslovanja.

Konkurentnost klastera u turističkim destinacijama mora uključivati pored ovih i neke druge karakteristike i ciljeve, a to su ekološka i kulturna održivost i kvalitet života lokalne zajednice. Zajedničko djelovanje teritorijalnih, institucionalnih i poduzetničkih elemenata, sa njihovim posebnim konkurentskim prednostima, rezultira zajedničkom konkurentnošću turističkog klastera (Dragičević & Obadić, 2013). Stoga se turistička konkurentnost klastera može iskazati kao ukupnost kapaciteta stakeholdera iz javnog, poslovnog i civilnog sektora uključenih u turističku aktivnost za dostizanje ciljeva razvoja na dugoročno održiv način, koji bi bili iskazani kroz bogaćenje sadržaja turističkog iskustva, nadprosječne financijske rezultate, socijalna i ekološka dostignuća. S ovog stajališta, uloga hotelskih preduzeća u okupljanju najvitalnijih segmenata svakog gospodarstva za razvoj ukupne ekonomije jedne zemlje vrlo je bitna. Osim toga, ona postaju važni subjekti moguće konkurentske prednosti u okviru prostornog okruženja u kojem djeluju. Kakvo je njihovo djelovanje, kao posljedica raznih udruživanja i integracija, vidi se od kakve je važnosti korištenje modela klastera za stjecanje moći.

## 2. METODOLOGIJA ISTRAŽIVANJA

Za potrebe ovog rada provedeno je anketno istraživanje o utjecaju klasterizacije na poslovanje malih i srednjih hotelskih preduzeća u Republici Hrvatskoj. Istraživački upitnik sastoji se od pitanja koja se odnose na temeljne podatke o hotelskim preduzećima, analizi njihove konkurencije i primjene procesa klasterizacije unutar tih hotelskih preduzeća. U uzorak je korištenjem generatora slučajnih brojeva izabrano 250 malih i srednjih hotelskih preduzeća, te je anketa provedena tako da su mala i srednja hotelska preduzeća kontaktirana putem e-maila za spremnost za sudjelovanje u istraživanju, neka su kontaktirana telefonom, a nekolicina malih i srednjih hotelskih

preduzeća je anketirana od strane autora osobno. Prikupljeno je 107 važećih upitnika (42,8%) u 2016. godini. Uzorak na kojem je provedeno istraživanje se može smatrati zadovoljavajućim za donošenje relevantnih zaključaka.

Potreba za razumijevanjem utjecaja klasterizacije na konkurentnost malih i srednjih hotelskih preduzeća od velike je važnosti kao istraživačka tema i kao političko pitanje u okviru regionalnih gospodarstava. Modeli klastera kod tvrtki s visokom tehnologijom i onih tvrtki koje su "svjetske klase" su dokumentirani. U Republici Hrvatskoj postoji malo dokaza u literaturi o povezanosti malih i srednjih hotelskih preduzeća s poljoprivrednim proizvođačima i ostalim gospodarskim subjektima, u smislu razvoja postojećih i poboljšanja njihove konkurentnosti. Sve više malih i srednjih hotelskih preduzeća treba izravno natjecanje na globalnim tržištima ili pronaći strategije za održavanje tržišnog udjela i razvoja poslovanja s drugim poslovnim subjektima ili subjektima iz inozemstva. Potreba za saradnjom odnosno udruživanjem sa drugim gospodarskim subjektima i poljoprivrednim proizvođačima malim i srednjim hotelskim preduzećima daje mogućnost povećanja konkurentnosti, koje se čini kao imperativ.

Teorijskim razmatranjima, pregledom relevantne literature i anketnim upitnikom nastojali su se dobiti odgovori na pitanja o: procesu klasterizacije, mogućnostima za daljnji razvoj i uspješnost poslovanja, kao i sklonostima udruživanja s poljoprivrednim proizvođačima, malih i srednjih hotelskih preduzeća.

U literaturi su različiti čimbenici navedeni kao ključni za uspješno poslovanje hotelskih preduzeća. Prvom postavljenom hipotezom želi se ispitati da li je klasterizacija važan čimbenik u povećanju konkurentnosti i kvaliteta poslovanja malih i srednjih hotelskih preduzeća, a drugom hipotezom se želi ispitati da li je vertikalno udruživanje u klastere s poljoprivrednim proizvođačima faktor povećanja konkurentnosti malih i srednjih hotelskih preduzeća.

### 3. REZULTATI ISTRAŽIVANJA

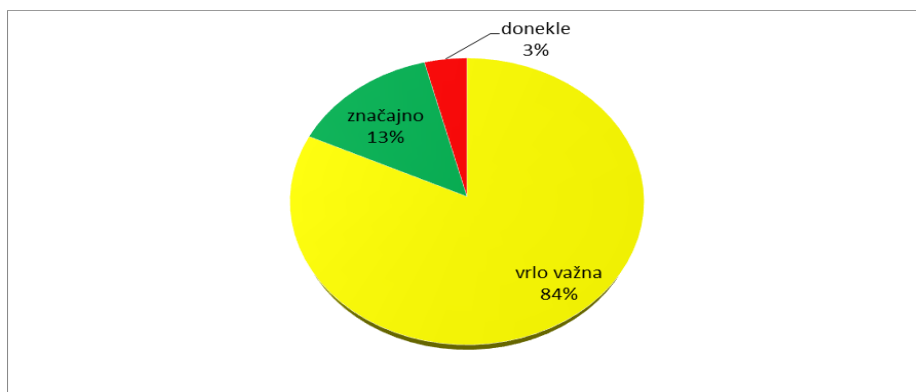
U literaturi su različiti čimbenici navedeni kao ključni za uspješno poslovanje hotelskih preduzeća. Prvom postavljenom hipotezom želi se ispitati da li je klasterizacija važan faktor u povećanju konkurentnosti i kvaliteta poslovanja malih i srednjih hotelskih preduzeća, a drugom hipotezom se želi ispitati da li je vertikalno udruživanje u klastere s poljoprivrednim proizvođačima faktor povećanja konkurentnosti malih i srednjih hotelskih preduzeća. U svrhu ispitivanja tvrdnje postavljene u hipotezi

**H1: Klasterizacija je važan faktor u povećanju konkurentnosti i kvalitete poslovanja malih i srednjih hotelskih preduzeća.**

Izvršena je analiza odgovora ispitanika na veći broj pitanja iz anketnog upitnika. Prvim pitanjem se željelo utvrditi kako ispitanici ocjenjuju važnost utjecaja klasterizacije na poslovanje hotela. Prema analiziranim odgovorima (grafikon 1) važnost klasterizacije za poslovanje malih i srednjih hotelskih preduzeća je vrlo značajna i značajna kod 97% ispitanika, 3% je smatra donekle značajnom, a niti jedan ispitanik ne smatra da ima malo

značenje ili da je u potpunosti nevažna. Navedeni rezultati upućuju na zaključak da je klasterizacija vrlo značajna za poslovanje malih i srednjih hotela.

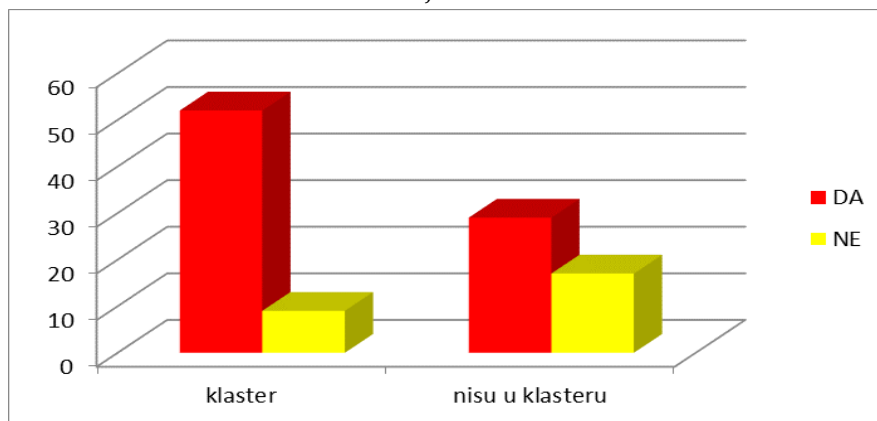
**Grafikon 1.** Važnost klasterizacije kao čimbenika uspješnosti poslovanja malih i srednjih hotelskih preduzeća



**Izvor:** Autori obradili podatke, Dubrovnik, travanj 2018.

Drugom pitanju je namjera ispitati koliki udio ispitanika smatra da se klasterizacija odražava na poslovanje kroz bolju konkurentnost na tržištu. Na ovo pitanje je 85,2% ispitanika iz malih i srednjih hotelskih preduzeća koja su u klasterima odgovorilo potvrdno, čime se potvrđuje tvrdnja da je klasterizacija važan faktor u povećanju konkurentnosti poslovanja. Na grafikonu 2. je uočljivo da je čak i u skupini malih i srednjih hotelskih preduzeća koja nisu u klasterima veći udio onih ispitanika koji su mišljenja da se klasterizacija odražava kroz bolju konkurentnost na tržištu.

**Grafikon 2.** Usporedba mišljenja o utjecaju klasterizacije na povećanje konkurentnosti poslovanja u malim i srednjim hotelskim preduzećima koja su u klasterima s onima koji nisu



**Izvor:** Autori Obradili Podatke, Dubrovnik, travanj 2018.

Na grafikonu se uz pomoć usporednih stupaca može uočiti da je u obje skupine mala i srednja hotelska preduzeća koja su u klasterima i mala i srednja hotelska preduzeća koja nisu u klasterima, veći udio onih koji su potvrdno odgovorili na pitanje da li klasterizacija povećava konkurentnost poslovanja. Također, se može zaključiti da je u skupini klaster značajno veći udio onih koji su mišljenja da klasterizacija povećava konkurentnost poslovanja. Iz navedenog se može zaključiti da su ispitanici iz malih i srednjih hotelskih preduzeća u Hrvatskoj svjesni činjenice da klasterizacija omogućuje bolju konkurentnost na tržištu. Analizom odgovora na anketna pitanja utvrđeno je također da je udio ispitanika koji su mišljenja da se klasterizacija odražava na poslovanje malih i srednjih hotelskih preduzeća kroz kvalitetniju hotelsku ponudu je 63%, 38% je mišljenja da se klasterizacija odražava u prihvatljivoj cijeni proizvoda, a 17% smatra da se odražava u većem broju i kontinuiranim inovacijama, a 32% u originalnosti ponude. Nadalje, ispitanici su dali visoke ocjene utjecaju klasterizacije na operativne poslove, marketinške performance i upravljanje ljudskim potencijalima. Prosječne ocjene menadžera koji su zaposlenici malih i srednjih hotelskih preduzeća udruženih u klastere su: za operativne poslove 4,21, za marketinške performance 4,57, a za upravljanje ljudskim potencijalima 4,38. Važno je istaknuti da čak 94,8% menadžera smatra da je udruživanje u klastere utjecalo na uspješnost poslovanja.

Prema prethodno navedenom dolazi se do zaključka da se hipoteza 1 prihvaća i da je klasterizacija važan faktor u povećanju konkurentnosti i kvaliteta poslovanja malih i srednjih hotelskih preduzeća.

Često se navodi da vertikalno udruživanje u klastere odnosno udruživanje različitih sektora uključenih u turizam, utječe na povećanje konkurentnosti. Sinergijskim učincima vertikalnog udruživanja u klastere utječe se na regionalnu konkurentnost što su utvrdili Alberti i Giusti (Alberti & Giusti, 2012) u svom istraživanju. Prema njima povezivanje turizma i kulture u vertikalno klastersko udruženje sinergijskim učincima utjecalo je na regionalnu konkurentnost turističke destinacije. Također, vertikalno udruživanje u klastere djeluje kao lokalni razvojni alat koji potiče inovativnost i stvaranje poduzetničke inicijative u cilju preinake i raznolikosti djelovanja preduzeća, što prema Fundeanu i Badelu (Fundeanu & Badele, 2014) vodi ka povećanju konkurentnosti samog preduzeća. Hipoteza H2:

### **Vertikalno udruživanje u klastere s poljoprivrednim proizvođačima faktor je povećanja konkurentnosti malih i srednjih hotelskih preduzeća**

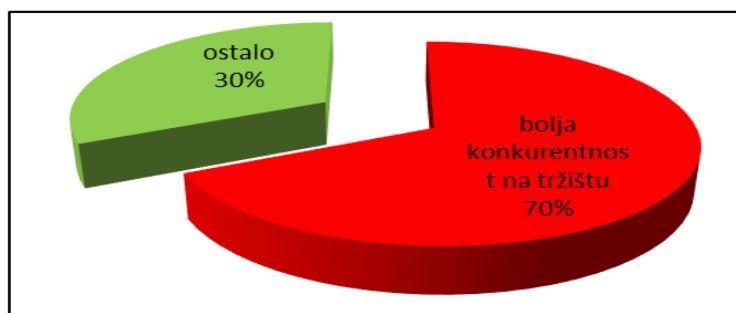
je ispitana na osnovu pitanja unutar anketnog upitnika o tome koja su mala i srednja hotelska preduzeća vertikalno udružena u klastere s poljoprivrednim proizvođačima.

Za dokazivanje odnosno opovrgavanje druge hipoteze istražena je poslovna saradnja između malih i srednjih hotelskih preduzeća i poljoprivrednih proizvođača. Na temelju dobivenih podataka ukazalo se da li su mala i srednja hotelska preduzeća u Republici Hrvatskoj primjenjivala strategiju vertikalnog udruživanja s poljoprivrednim proizvođačima, svjesnost menadžera o primjeni vertikalnog udruživanja za razvoj vlastitog poslovanja, koriste li mogućnosti okruženja i kako svoj program koji po svojoj

naravi ima dozu specifičnosti prilagođavaju trendovima turističkog tržišta i oštrim konkurentnim zahtjevima koje nalaže konkurencija. Ispitan je intezitet utjecaja vertikalnog strateškog udruživanja na povećanje konkurentnosti malih i srednjih hotelskih preduzeća.

Iz provedenog istraživanja za potrebe ovog rada rezultati su pokazali da su ispitanici navodili da je udruživanjem malih i srednjih hotelskih preduzeća i poljoprivrednih proizvođača konkurentnost porasla što se vidi u sljedećem grafikonu.

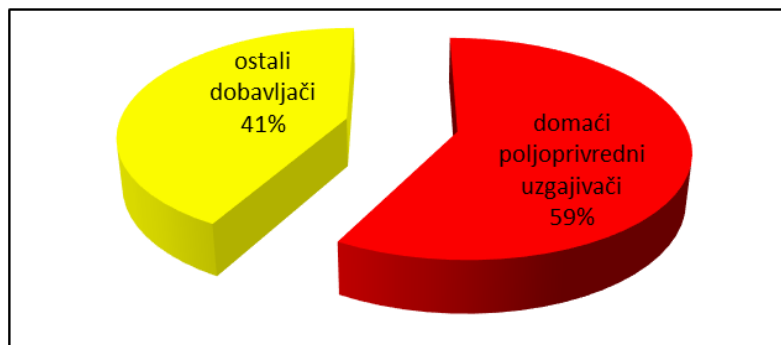
**Grafikon 3.** Mala i srednja hotelska preduzeća i utjecaj na povećanje konkurentnosti na turističkom tržištu kao uzrok strateškog povezivanja sa poljoprivrednim proizvođačima



**Izvor:** Autori Obradili Podatke, Dubrovnik, travanj 2018.

Iz grafikona je vidljivo da je povezivanje malih i srednjih hotelskih preduzeća sa poljoprivrednim proizvođačima pozitivno utjecalo na povećanje konkurentnosti malih i srednjih hotelskih preduzeća. Iz ovoga je razvidno da povezivanje bitno utječe na samo poslovanje i hotelskih preduzeća i poljoprivrednih proizvođača kroz povećanje konkurentnosti i na turističkom tržištu, ali isto tako i povećanje konkurentnosti poljoprivrede općenito. Rezultati su također pokazali da je skoro 60% malih i srednjih hotelskih preduzeća koji su bili uključeni u ovo istraživanje koristilo prehrambene namirnice koje su proizvedene od strane poljoprivrednih proizvođača što se vidi na grafikonu 4.

**Grafikon 4.** Udio malih i srednjih hotelskih preduzeća u ukupnom uzorku koji koriste domaće poljoprivredne proizvođače kao dobavljače prehrambenih proizvoda



**Izvor:** Autori Obradili Podatke, Dubrovnik, travanj 2018.

Prema obrađenim rezultatima ankete u grafikonu 4 je razvidno da više od polovice malih i srednjih hotelskih preduzeća u uzorku koristi u svojoj hotelskoj ponudi proizvode koji su proizvedeni od strane poljoprivrednih proizvođača. Oko 41% malih i srednjih hotelskih preduzeća koriste prehrambene proizvode koje dobavljaju iz različitih trgovačkih lanaca, a nekolicina je i onih koji koriste proizvode iz samostalnog uzgoja. U svrhu ispitivanja hipoteze 2 također je primijenjen hi-kvadrat test kojim se na temelju tabele kontingence ispituje da li postoji značajna razlika u mišljenju ispitanika iz malih i srednjih hotelskih preduzeća koji su udruženi sa poljoprivrednim proizvođačima i ostalih, o utjecaju klasterizacije na konkurentsku prednost. Rezultati testa predloženi su u tablici 1. i iz njih je razvidno da postoji značajna razlika u mišljenju dvije skupine ispitanika.

**Tablica 1.** Rezultati Hi-kvadrat testa

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22,106	2	,000
Likelihood Ratio	24,441	2	,000
N of Valid Cases	107		

**Izvor:** Autori obradili podatke, Dubrovnik, travanj 2018.

Čak 95% ispitanika iz malih i srednjih hotelskih preduzeća koja su udružena sa poljoprivrednim proizvođačima smatra da se vertikalno udruživanje u klastere

odražava kroz bolju konkurentnost na turističkom tržištu, kvalitetniju hotelsku ponudu, prihvatljiviju cijenu i inovacije dok samo 22,7 % ispitanika iz ostalih hotelskih preduzeća dijeli to mišljenje. Od ukupnog broja malih i srednjih hotelskih preduzeća 61 ih je udruženo u klaster od čega je njih 42 udruženo u klaster sa poljoprivrednim proizvođačima. Prema rezultatima može se reći da su mala i srednja hotelska preduzeća počela pomalo prepoznavati važnost klasterizacije za kvalitet svoje hotelske ponude jer je 68,8% onih koji su udruženi u klaster, a članovi istog tog klastera su poljoprivredni proizvođači.

Prema gore navedenom i rezultatima testa prikazanim u tablici može se zaključiti da se hipoteza 2 prihvaća i da je vertikalno udruživanje u klastere sa poljoprivrednim proizvođačima faktor povećanja konkurentnosti malih i srednjih hotelskih preduzeća.

#### 4. ZAKLJUČAK

Rezultati dobiveni istraživanjem za potrebe ovog rada su pokazali da je kvaliteta usluge u malim i srednjim hotelskim preduzećima iz uzorka ocijenjena zadovoljavajućom, s tim da su hotelska preduzeća koja su udružena u klaster, kvalitet usluge u svojim hotelskim preduzećima ocijenila vrlo zadovoljavajućom što se može pripisati upravo činjenici da udruživanjem u klastere mala i srednja hotelska preduzeća povećavaju kvalitet svojih hotelskih usluga. Time je dokazano da je klasterizacija faktor koji utječe na poboljšanje postojeće kvalitete usluge unutar malih i srednjih hotelskih preduzeća članova klastera. Samo je 5,8% malih i srednjih hotelskih preduzeća udruženih u klaster, kvalitet svoje usluge ocijenilo lošom nakon udruživanja. Sva druga hotelska preduzeća udružena u klaster su kvalitet usluge u svojim hotelskim preduzećima ocijenili zadovoljavajućom odnosno vrlo zadovoljavajućom. Zadovoljstvo gostiju koji su boravili u malim i srednjim hotelskim preduzećima obuhvaćenih istraživanjem, kvalitet usluge su ocijenili prosječnom ocjenom vrlo zadovoljavajuće (5-prema Likertovoj skali), dok su gosti koji su boravili u hotelskim preduzećima koja nisu u klasteru kvalitet usluge ocijenili slabije. Proizlazi iz svega prethodno navedenog da su gosti dobili kvalitetniji proizvod i uslugu u hotelskim preduzećima koja su udružena u klaster.

Zaključak je da udruživanjem u klastere mala i srednja hotelska preduzeća unapređuju hotelsko poslovanje. Zadovoljstvo gostiju koji borave u malim i srednjim hotelskim preduzećima udruženim u klaster je veće nego u hotelskim preduzećima koja nisu udružena. Udruživanjem u klastere hotelska preduzeća poboljšavaju kvalitet usluga čime je i zadovoljstvo gostiju veće i velika je vjerojatnost njihova povratka u isti hotelski objekt. Bitno je da povećanje kvalitete hotelske usluge ne prati i povećanje cijene kao što je to u tradicionalnom poslovanju bio slučaj. Upravo iz tog razloga potrebno je

da se mala i srednja hotelska preduzeća udružuju u klastere koji će im omogućiti poboljšanje postojeće kvalitete, zadovoljstvo gostiju i u konačnici uspješnije hotelsko poslovanje.

## LITERATURA

- Alberti, F.G. & Giusti, J.D. (2012) Cultural heritage, tourism and regional competitiveness: The Motor Valley cluster, *City, Culture and Society*, 3(4).
- Dragičević, M. & Obadić, A. (2013) Klasteri i politike razvoja klastera, *Ekonomski fakultet Sveučilišta u Zagrebu, Zagreb*, str. 27.
- Dragusin, M.; Constantin, D.L. & Petrescu, R. M. (2010) Clustering in transition economies: the case of Romanian tourism industry, 20<sup>th</sup> Biennial International Congress Tourism and Hospitality Industry 2010 "New trends in Tourism and Hospitality Management, Faculty of Tourism and Hospitality Management, Opatija, Croatia.
- Erkuş-Öztürk, H. (2011) Emerging Importance of Institutional Capacity for the Growth of Tourism Clusters: The Case of Antalya, *European Planning Studies*, 19(1).
- Fundeanu, D. & Badele, C. (2014) The impact of Regional Innovative Clusters on Competitiveness, *Procedia-Social and Behavioral Sciences*, Vol. 124.
- Gurrieri, A.R. (2013) Networking entrepreneurs, *Journal of socio-economics*, Vol. 47.
- Hsieh, P. & Lee, C. (2012) A note on value creation in consumption-oriented regional service clusters, *Competitiveness Review*, 22(2).
- Lee-Ross, D. & Lashley, C. (2010) *Entrepreneurship and Small Business Management in the Hospitality Industry*, Butterworth Heinemann, Oxford.
- Porter, M.E. (1998) Clusters and the new economics of competition, *Harvard Business Review*, 76(6).
- Segarra-Oña, M., et.al. (2012) The effects of Localization on Economic Performance: Analysis of Spanish Tourism Clusters, *European Planning Studies*, 20(8).
- Šarić, S. (2012) *Competitive Advantage through Clusters: An Empirical Study with Evidence from China*, doktorska disertacija, Springer Gabler, Wiesbaden.
- [www.clusterobservatory.eu](http://www.clusterobservatory.eu)



## **Remittances to Eastern-Europe – Evidence from Hungary**

László Kajdi<sup>1</sup>

### **Abstract**

Migration from Eastern-European countries to the developed Western member states of the European Union was significant during the last decades and became more intense after the widening of the Union. An important driver of these population movements is the support of left-behind household-members in the migrants' countries of origin. However, the available information on the socio-economic background of remittance senders and receivers is limited. A recent Hungarian survey focusing specifically on this topic provides the opportunity to obtain a clearer picture in this field. After introducing major migration and remittance trends in the region, the results of this survey, including the socio-economic characteristics of the participants and the volume of remittances are presented. One of the main consequences is that the volume of remittances based on micro-level data is significantly lower than that income-transfers data in the Balance of Payments. Also important, that the survey provides solid evidence that remittances are mainly a form of intergenerational support, and significant differences can be discovered by the migrants' host countries. Since the research concerning remittances mainly focused on developing countries, these new results can provide an important contribution to the study of this field in the whole Eastern-European region.

**Keywords:** Remittances, Migration, Balance of Payments, Labour-market

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## 1. INTRODUCTION

Emigration of the young and qualified population can considerably change the economic and demographic prospects of a country. The loss of human capital might cause shortages in the domestic labour market, which narrows down the possibilities of future economic development. However, for several countries, especially those with relatively underdeveloped economy and higher level unemployment, financial support from emigrants residing abroad can constitute an important additional source of income for households and foreign currency. The assessment of these money flows – so-called remittances – is rather controversial within the scientific community as some scholars tend to emphasise the disadvantages connected to emigration and remittances.

To understand both migration and remittances phenomena, the availability of reliable and accurate data is essential. Only with such data can researchers provide a clear picture, and this is the fundamental basis for officials to elaborate effective public policies as well. One of the most widely used data sources concerning remittances is the Balance of Payments (BoP), which constitute the starting point of estimations by international organisations as well. However, there are major deviations in the applied definitions. Therefore BoP data do not cover remittances, instead, they refer to gross income flows. Therefore, the use of additional data sources like household surveys is crucial to reach the right conclusions.

Within this study, the results of a recent Hungarian remittance survey are introduced, which provide an important contribution to the research of intra-European Union (EU) migration processes. In the first part a brief overview of relevant literature is provided, the data sources and trends concerning Eastern Europe are introduced, which is followed by the presentation of the results of the Hungarian survey. In the final chapter, the conclusions are presented, focusing on public policy aspects.

## 2. REMITTANCES IN THE INTERNATIONAL LITERATURE

Several theoretical frameworks try to explain the causes of migratory flows (see, e.g. Piché, 2013), and due to the complexity of this phenomenon, many theories can be valid in parallel. According to Jenissen (2007), four types of factors can be identified, which influence migration, i.e. economic, social, political and “linkages”. Among the economic factors, financial support sent by emigrants can also be found. However, from a remittances point of view, some of the migration theories can be considered as the basis of research activity. The New Economics of Labour Migration (NELM) is a major concept among them, which declares that the decision on migration is made not on individual, but on a household level (Katz – Stark, 1986; Lucas – Stark, 1985; Stark – Bloom, 1985; Stark – Lucas, 1988; Taylor, 1999). This theory distinguishes reasons for sending remittances as altruism, self-interest and tempered altruism. The latter one looks to the relationship of the migrant person and the left-behind household as a type of contractual agreement which serves dual purposes. On the one hand, the financial support sent by migrants is an asset of the diversification of household risks and income sources. In case

of financial or economic turbulences remittances are more or less independent from the country of origin's economy. Therefore they help to improve households' anti-shock resistance ability. On the other hand, migrants can pay back with remittances the support provided by their family in the initial phase of emigration, concerning, e.g. education, travel costs, daily costs until the job has found.

Another important concept is the cumulative causes of migration, which is in close-connection with network theories (Davis et al., 2002; Massey, 1990; Massey et al. 1998; Palloni et al. 2001). This explains migratory flows as a self-generating process since each additional person who leaves the home country will increase the probability of further emigration. This can be traced back to some major causes; among them, remittances play an important role. On the one hand this additional income will improve the situation of certain households (those with emigrants working abroad), which increase income inequality and relative deprivation in the sending communities. The growing social and economic differences will incite further households to use emigration as a strategy. On the other hand, it is also important, that in some cases remittances are used for the emigrants' economic interests, namely to buy land for the times, when the migrant returns. However, these areas often fell out of cultivation, since their primary purpose is an investment. Thus unemployment in the agricultural sector will increase, which also boosts further out-migration.

According to World Bank estimates (e.g. Maimbo – Ratha 2005; Ratha – Mohapatra – Plaza, 2008; World Bank, 2016), the volume of remittances exceeds that of official international assistance (i.e. financial aids to developing countries), and these flows are much more reliable external sources than foreign direct investments (FDI), which have high volatility correlating economic turbulence. These statements resonate to the findings of several studies (e.g. Koc – Onan, 2006; Koechlin – Leon, 2007; Leon-Ledesma – Piracha, 2004) emphasising the importance of remittances regarding the development of countries. However, some scholars raise the attention that the evaluation or remittances are not entirely positive. This kind of financial support is much more sporadic compared to investments, therefore the efficiency of them is lower and rather the development potential should be in focus, and it should also be noted that they might be the root cause of "Dutch-disease" as well (e.g. de Haas, 2012; Knerr, 1993).

### **3. AN OVERVIEW OF EASTERN EUROPEAN REMITTANCE FLOWS**

During the recent years, a constantly growing number of people reside and work in Western European states from the South-East European region. This process was further amplified by the joining of several Eastern countries to the EU. However it was deliberately slowed down by initial constraints regarding the free movement of the labour-force by certain countries. Before the widening of EU bilateral agreements regulated cross-border labour migration (Hárs, 2003), and some of the restrictions were sustained temporarily for a couple of years after the joining of new members as well. The developed Western countries followed different strategies in this field: while the United Kingdom, Ireland or Sweden immediately let the citizens of the new member

states work, for example, Austria or Germany introduced temporary limitations. However, the gradual liberalization of the labour-force movement caused a massive out-migration in most of the new member states with different specificities: while considerable volume of workers left their countries right after the joining to EU, for instance, Hungary followed this trend with some time-lag, and emigration started to intensify only from 2011 (Blaskó – Gödri, 2014; Hárs, 2016).

In the case of extra-EU countries (so-called ‘third-countries’) in the Balkan, the legal and policy constraints of migration remained. Therefore no major changes could be observed in the number of residents at Western European countries<sup>1</sup>, and trends were rather decreasing compared to the situation at the millennium. According to Eurostat (2018a) data, the number of persons from Croatia and Bosnia and Herzegovina showed a slight decrease around 350 thousand people in the first decade of the 2000s, while the number of persons from Albania and Macedonia moderately ascended. The largest group, the migrants from Serbia and Montenegro, was steadily set back during this era.

Despite the slightly diverging migration trends in the region, the volume of income and registered private transfers of emigrants steadily grows in each country. Nevertheless, it should be noted, that Balance of Payment (BoP) data do not exactly cover remittances. Two rows of (BoP) can be connected to the topic of these money flows (IMF, 2009). While the ‘Personal transfers’ are sent by permanent emigrants (i.e. those who stay or intend to stay for more than a year in another country), ‘Compensation of employees’ can be considered as the income of temporary (i.e. short-term migrants, who leave their country of origins for less than a year) migrants. Therefore, it should be clear that remittances are only a fraction of the BoP data (besides consumption spending, taxes, savings etc.) and BoP data do not refer only to remittances but to other amounts as well.

However, since in most of the countries the only data providing clues on remittance trends are available from the BoP, it is worth to examine them. Naturally, small developing economies like that of Albania or Kosovo are more dependent on external source, i.e. the ratio to GDP is higher, but this indicator reaches around 3 per cent in other countries of the region as well. Therefore they constitute a significant money flow from the national economies point of view. One of the disadvantages of remittances is that they are rather sporadic micro-payments. Therefore they support only the consumption of households instead of more effective utilisation like investments for instance. However, this feature should not be neglected either: the ratio of remittances to household consumption is even higher in every examined country. Previous research activity (e.g. Prekazi, 2018) indicates that the consumption of home-coming emigrants is also significant in certain countries, and this usage of income earned at foreign countries is quite similar to actual remittances.

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<sup>1</sup> We considered as migrant receiving Western European countries the followings: Belgium, Denmark, Germany, Ireland, Spain, France, Italy, Netherlands, Austria, Portugal, Finland, Sweden, United Kingdom, Iceland, Norway and Switzerland.

According to BoP data, different migration strategies can be identified among Eastern European countries. While in the case of Croatia or Poland, the money flows of short- and long-term migrants are almost the same, in other countries (Czech Republic, Hungary, Slovenia, Slovakia) the ratio of Compensation of employees among total concerned BoP data exceeds 80 per cent. This can be traced back to two major possible reasons: on the one hand, since these countries are EU-members, the labour-force movement is much easier. Thus the more comfortable short-term works are available. On the other hand, this might have a relation with the geographic proximity of these states to important target-countries like Austria and Germany. The longer geographic distance might explain the fact that in the case of Bulgaria and Romania long-term migration is more typical according to related BoP data, even though both countries are EU member states. In the case of Macedonia, Serbia, Kosovo or Albania also the Personal transfers constitute the most of these money flows: in these countries permanent migration might be more typical due to administrative constraints regarding labour-force flows from third countries to the EU.

**Table 1.** Remittance-related data in the Balance of Payments in Eastern-Europe, 2017, million EUR

Country	Personal transfers	Compensation of employees	Total* as a % of GDP**
Bulgaria	1,153	800	3.9%
Czech Republic	739	2,433	1.7%
Croatia	1,056	1,094	4.4%
Hungary	744	3,367	3.3%
Poland	3,050	3,013	1.3%
Romania	2,820	971	2.0%
Slovenia	53	302	0.8%
Slovakia	231	1,685	2.3%
Montenegro	125	260	9.7%
Macedonia	194	84	2.8%
Albania	872	285	10.0%
Serbia	2,958	212	8.6%
Kosovo	759	221	16.1%

**Source:** Eurostat 2018b

\*Total refers to the aggregation of Personal transfers and Compensation of employees

\*\*GDP at current market prices, million EUR. In case of Montenegro and Kosovo, GDP data refer to the year 2016.

#### 4. REMITTANCES IN HUNGARY – NEW SURVEY DATA

Due to the definition-problems above of BoP data, in order to obtain a more accurate picture of remittances as major economic drivers of emigration, survey data can be utilised. For the sake of deeper analysis, in 2017 a representative household survey

was executed in Hungary in the cooperation of the Central Bank and the Central Statistical Office. As remittance-specific surveys are relatively unique within the EU member states, the results offer a deeper understanding of migration motives and financial flows not only for Hungary but for other countries as well.

A sample of 3,000 Hungarian private households was asked through different ways (both in person, on the internet and telephone) to provide data on the most important socio-economic characteristics of the receiving households and the sender persons, as well as the frequency and volume of the cross-border private transfers (Kajdi, 2018).

According to survey results, the volume of remittances in 2016 reached HUF 38 billion, i.e. approximately 120 million euros. The huge difference between macro- and micro level data draws the attention of the careful interpretation of BoP data when examining migration related financial flows. Although naturally bias cannot be excluded in the case of household surveys, especially when collecting sensitive information like income data, with the comprehensive preparation (e.g. targeted cognitive-interviews to elaborate the exact wording of questions, or additional training and remuneration for survey-interviewers) this was minimised. Indirect clues like the almost lognormal distribution of household and sender incomes also confirmed the reliability of data. The difference between the widely used BoP data and actual remittance definition should rather be emphasised when interpreting the results: the related BoP categories contain not only remittances, but other money flows as well. Therefore they are not to be interpreted as solely remittance data.

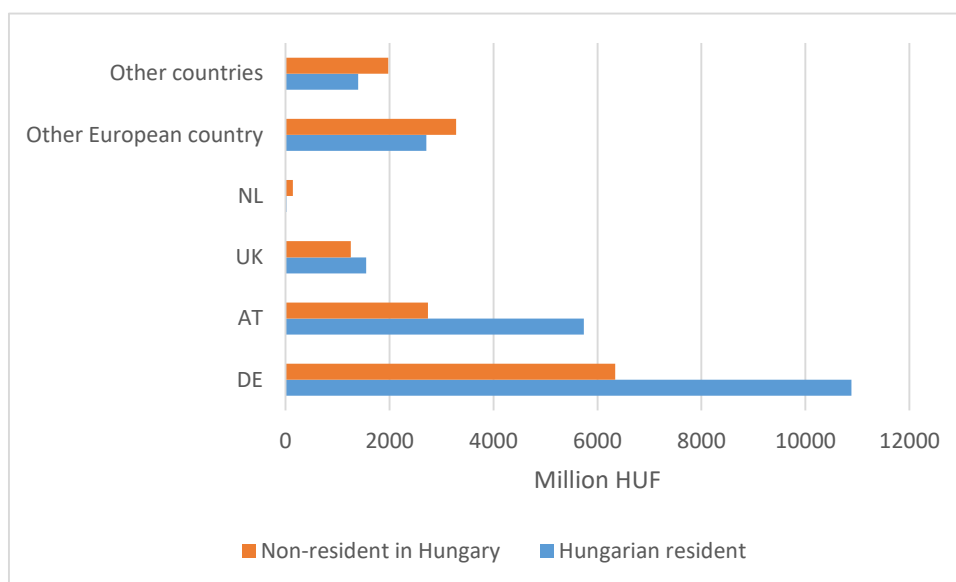
If we consider the method of support – i.e. financial or another type like sending food, clothes etc. – data shows, that non-financial ways of helping the left-behind household members are quite frequent, however, the value of them is quite low. This is important from the perspective of the possible hypothesis that macro-level BoP data are underestimated since they do not capture other types of support. The low value of non-financial flows confirms that this effect is negligible concerning the total volume.

Less than two per cent of all Hungarian household receive such additional income. Nevertheless the more than 67 thousand absolute number of them indicates, that a considerable proportion of Hungarians are affected by this phenomenon. These households have one major difference compared to average Hungarian ones: the household heads are usually older, and with other questions concerning the relationship between the sender and receiver side, this shows, that remittances are mainly a form of support from adult emigrants to their elderly parents.

Examining the geographical distribution of the sender side, the major source countries of remittances are in line with the main target countries of Hungarian emigrants. According to the latest results (KSH, 2018), the main emigration target countries are Germany, United Kingdom and Austria (with a proportion of emigrants of 31, 26 and 14 per cents respectively), and these are the main source-regions of private transfers as well: 45, 7 and 22 per cent of total remittances came from Germany, the

United Kingdom and Austria respectively. As we can see from the data, the remittance propensity of Hungarian nationals residing in the United Kingdom is below the average. To profoundly understand the reasons behind this needs further research. However some possible explanatory reasons can be constructed in advance. On one hand, emigrants leave to the United Kingdom for long-term residence over a year, and permanent migrants tend to send less support to their relatives due to the higher costs of establishing a new life and weaker personal connections. On the other hand, while Hungarian workers in Austria and Germany usually have vocational qualifications and use these in different 'blue-collar'-type jobs, emigrants in the United Kingdom have relatively higher education often with college or university degrees, but they work in positions below their qualification.

**Figure 1:** Distribution of remittances to Hungary by main source countries and residency of the sender



**Source:** Kajdi (2018)

The results of the Hungarian survey are in line with the main statements of a Macedonian data collection (Roberts et al., 2008) at several fields unveiling some general trends. The main target country is Germany; most of the senders have secondary education level and have positions in 'blue-collar' jobs; the money is mainly used for daily consumption purposes; around one-third of emigrants send financial support.

## 5. CONCLUSION

This study aimed to provide a brief overview of migration processes of the Eastern-European region with a focus of remittances as one of the major drivers and sustaining factors of labour-force movements. No unique theoretical framework can explain the motives of these money flows due to the diversity of country-specific factors and the

complexity of the root-causes of population movements. Nevertheless, it is clear that financial support sent by emigrants residing abroad is a significant determinant when the decision on migration is made.

Macro-level data confirm that the widening of the EU was an important turning point since, in parallel with the gradual cessation of limitations concerning labour-force movements, the volume of out-migration intensified from Eastern member states. In the extra-EU countries in the region we can see trends in the opposite direction, i.e. a moderate decrease in the number of emigrants occurred. A possible explanation for this is that the inverse above trends are in connection: the growing number of workers from Eastern member states “crowd out” labour force from the extra-EU third countries. Macro-level data from BoP also confirm different migration strategies by the countries in the region based on their unique opportunities and characteristics. They also underlie that external private transfers play a significant role as a source of domestic household consumption in certain countries.

The results of a recent Hungarian household survey show, that micro-level data - with which the notion and definition of remittances can be captured more precisely and deeper – are essential to obtain a clear picture in this field. On the one hand the volume of remittances might be much lower than it can be thought from the volume BoP data, which reveals the need for careful interpretation of macro statistics. However, the relatively low level of actual remittances can have severe implications on public policies as well. State administrations have to face that the “compensation” for the demographic and economic loss created by the emigrating human capital is even lower than it was supposed. Therefore more effective measures should be applied for the prevention of further permanent emigration. On the other hand, survey data provide an insight into the underlying determinants of remittances, supporting the deeper understanding of population movements and accompanying money flows.

## REFERENCES

- Blaskó, Zs. & Gödri, I. (2014): Kivándorlás Magyarországról: Szelekció és célország-választás az „új migránsok” körében (Emigration from the labour market of Hungary – Selection and choice of target country among the “new migrants”). *Demográfia*, 57(4), 271–307.
- Davis, B.; Stecklov, G. & Winters, P. (2002): Domestic and international migration from rural Mexico: Disaggregating the effects of network structure and composition. *Population Studies*, 56(3), 291–309.
- Eurostat (2018a): Eurostat Database: Population on 1 January by age group, sex and citizenship (migr\_pop1ctz) table. (22. 08.2018).
- Eurostat (2018b): Eurostat Database: Personal transfers and compensation of employees (bop\_rem6) table. (22.08.2018).



- de Haas, H. (2012) The migration and development pendulum. A critical view on research and policy. *International migration*, 50(3), 8-25.
- Hárs Á. (2003): Channelled East-West labour migration in the frame of bilateral agreements. Hungarian Academy of Sciences, Institute of Economics, BWP, No 1.
- Hárs Á. (2016): Elvándorlás és bevándorlás Magyarországon a rendszerváltás után - nemzetközi összehasonlításban (Emigration and immigration in Hungary after the regime change – by international comparison). In: Blaskó Zs. - Fazekas K. (ed.) (2016): *The Hungarian Labour Market 2016*. Hungarian Academy of Sciences, Institute of Economics
- IMF (2009): *Balance of Payments and International Investment Position Manual – 6th edition*. International Monetary Fund, Washington D.C.
- Jennissen, R. (2007): Causality chains in the international migration systems approach. *Population Research and Policy Review*, 26 (4), 411-436
- Kajdi L. (2018): Remittances – First results of a new survey. *Financial and Economic Review*, 17(3), 85-108.
- Katz, E. & Stark, O. (1986): Labor migration and risk aversion in less developed countries. *Journal of Labor Economics*, 4(1), (Jan., 1986), 134-149.
- Knerr, B. (1993): International labour migration: Economic implications for the population in the source country. In: IUSSP, *International Population Conference Montreal 1993* (pp. 625–650). Lie`ge, Belgium: IUSSP.
- Koc, I. & Onan, I. (2006): International Migrants' Remittances and Welfare Status of the Left-Behind Families in Turkey, *International Migration Review*, 38, 78-112.
- Koechlin, V. & Leon, G. (2007): International Remittances and Income Inequality: An Empirical Investigation, *Journal of Economic Policy Reform*, 10(2), 123-141.
- KSH (Hungarian Central Statistical Office) (2018): *Mikrocensus 2016. 10. Nemzetközi vándorlás. (Microcensus 2016. Vol. 10. International migration)*. Központi Statisztikai Hivatal.
- Leon-Ledesma, M. & Piracha, M. (2004): International migration and the role of remittances in Eastern Europe. *International Migration*, 42(4), 65-83.
- Lucas, R. E. B. & Stark, O. (1985): Motivations to remit: evidence from Botswana. *Journal of Political Economy*, Vol. 93, 901-18.
- Maimbo S.M. & Ratha D. (ed.) (2005): *Remittances. Development impact and future prospects*. The World Bank.
- Massey, D. S. (1990): Social structure, household strategies, and the cumulative causation of migration. *Population Index*, 56(1), (Spring, 1990),. 3-26.

- Massey, D.; Arango, J.; Hugo, G.; Kouaouci, A.; Pellegrino, A. & Taylor, J. E. (1998): *Worlds in motion. Understanding international migration at the end of the Millennium*. Oxford University Press.
- Palloni, A.; Ceballos, M.; Espinosa, K. & Spittel, M. (2001): Social capital and international migration: A test using information on family networks. *American Journal of Sociology*, 106(5), 1262- 1298.
- Piché, V (2013): Contemporary migration theories as reflected in their founding texts. *Population-E*, 68 (1), 141-164
- Prekazi, Y. (2018): Remittance analysis and their economic aspect, Kosovo case. *European Journal of Marketing and Economics*, 1(2), 135-141.
- Ratha, D.; Mohapatra, S. & Plaza, S. (2008): *Beyond aid: New sources and innovative mechanisms for financing development in Sub-Saharan Africa*. The World Bank, Policy Research Working Paper 4609.
- Roberts, B.; Markiewitz, M.; Nikolov, M. & Stojkov, A. (2008): A study on determinants and trends in remittance flows in Macedonia. *CEA Journal of Economics*, 3(1), 41-61.
- Stark, O. & Bloom, D. E. (1985): The new economics of labor migration. *The American Economic Review*, Vol. 75, No. 2, Papers and Proceedings of the Ninety-Seventh Annual Meeting of the American Economic Association (May 1985), 173-178.
- Stark, O. & Lucas, R. E. B. (1988): Migration, remittances, and the family. *Economic Development and Cultural Change*, Vol. 36, No. 3 (Apr. 1988), pp. 465-481
- Taylor, J. E. (1999): The new economics of labour migration and the role of remittances in the migration process. *International Migration*. 37 (1) 1999,. 63-88.
- World Bank. 2016. *Migration and Remittances Factbook 2016*, 3rd edition. Washington, DC: World Bank

## Comparison of the Turkey's Human Development Index with EU Countries

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### Abstract

Economic growth is not enough to define that country as a developed country. It is seen that social problems cannot be solved in many economically developed countries; it is necessary to establish a better relationship between economic growth and human development. The Human Development Index (HDI) has emerged as an alternative to economic growth, a sign of development. This index makes a clear distinction between economic development and human development. It also shows that not only income but also health and education opportunities are important for the people of the country to increase people's well-being. Human development is all about people—expanding their freedoms, enlarging their choices, enhancing their capabilities and improving their opportunities. It is a process as well as an outcome. Economic growth and income are means to human development but not ends in themselves—because it is the richness of people's lives, not the richness of economies, that ultimately is valuable to people

The Human Development Index (HDI) is a composite statistic (composite index) of life expectancy, education, and per capita income indicators, which are used to rank countries into four tiers of human development. A country scores higher HDI when the lifespan is higher, the education level is higher, and the GDP per capita is higher. The HDI was developed by Pakistani economist Mahbub ul Haq for the United Nation Development Programme.

Turkey, in spite of substantial economic progress in recent years, the HDI score for 2015 is 0.767, ranks 71 in the world ranking.

The aim of the study, comparison of Turkey's Human Development Index and the components with EU countries, the candidate and the potential candidate countries. Also in order to increase Turkey's HDI is to discuss what measures should be taken.

**Keywords:** Education, Purchasing power, Life quality, Economic growth

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## 1. INTRODUCTION

Economic growth is not enough to define that country as a developed country. Neither growth nor economic growth is an indicator of social development or development. In addition to basic economic criteria; non-economic variables such as education, health, culture, policy and institutional factors may be important as measurable and observable economic variables regarding their contribution to the development of countries. Social development refers to the multi-faceted improvement of the living conditions of a society. If the income does not distribute in a balanced way in the society, economic growth may also involve a process in which a sector is enriched and which does not contribute to the living space of the social majority.

It is seen that social problems cannot be solved in many economically developed countries. It is necessary to establish a better relationship between economic growth and human development. The inadequate measurement of development with only economic growth has led to the development of human-axis measurement techniques. In this context, HDI, developed by UNDP in the light of scientific studies, gives a summary measure of human development and offers the opportunity to compare countries with other countries (Tüylüoğlu and Karalı, 2006). The Human Development Index (HDI) has emerged as an alternative to economic growth, a sign of development.

Turkey, despite substantial economic progress in recent years, the HDI score for 2015 is 0.767, ranks 71 in the world ranking.

The aim of the study, comparison of Turkey's Human Development Index and the components with EU countries, the candidate and the potential candidate countries. Also in order to increase Turkey's HDI is to discuss what measures should be taken.

## 2. MATERIAL AND METHOD

### a. Material

In the study, human development index components of 35 European countries were examined. HDI is calculated from components such as life expectancy at birth, expected years of schooling, mean years of schooling and gross national income (per capita). Data were obtained from website of United Nations Development Programme, Human Development Reports (Anonymous, 2018a).

Investigated countries are;

*EU Member Countries:* Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the UK.

*Candidate Countries:* Albania, Montenegro, Serbia, The former Yugoslav Republic of Macedonia, Turkey.

*Potential Candidates Countries:* Bosnia and Herzegovina, Kosovo.

Countries were located by Multidimensional Scaling Method, and two-dimensional distributions of similar countries were determinate.

## **b. Method**

Multidimensional scaling analysis (MDS) is a multivariate statistical analysis method that aims at obtaining the representation of single or multidimensional images of objects based on the similarities observed between objects or units, or the distance values of differences, thus determining the relationships between objects. MDS is frequently used in the analysis of behavioural data such as personal preferences, attitudes, tendencies, beliefs and expectations (Oğuzlar, 2001)

The MDS is a method that aims to obtain a k-dimensional ( $k < p$ ) space representation of objects based on the distances determined according to p variables between n objects (individual-observation) or units and thus determine the relationships between objects. (Özdamar 2004, Tatlıdil 1996, Aytaç and Bayram 2001). For the primary purpose of the MDS is to place the original data into a coordinate system of as small a dimension as possible (Johnson and Wichern 1999). Thus the differences are visualised with a graph and are visible.

MDS analysis makes use of distance matrices. For this reason, it is necessary to calculate appropriate distance matrices according to the data type (Doğan, 2003). In this study, the distance of Euclidian (Euclidean) was taken away. The Euclidean distance is a measure of the geometric distance calculated by taking the square root of the sum of squares of difference (variable) in each dimension.

$$\text{Euclidean distance } d = \sqrt{\sum_{i=1}^n (x_i - y_i)^2}$$

The stress measure developed by Kruskal, which is a measure of adaptation or adaptation wellness, has wide use in the MPS analysis and as an important criterion in determining whether the number of dimensions used in the graphical arrangement obtained as an analysis result is appropriate (Filiz and Çemrek 2005).

$$\text{stress} = \sqrt{\frac{\sum \left( \hat{d}_{ij} - d_{ij} \right)^2}{\sum (d_{ij})^2}}$$

$\hat{d}$  = i. ve j. data distance between individuals,

$d_{ij}$  = i. ve j. configuration distance between individuals. (Doğan, 2003).

The stress rate is used as a criterion for deciding the suitability of the SCL solution. A low-stress value solution is appropriate. A high value is a sign of poor sleep. Table 1 gives a chart developed for the interpretation of Kruskal's stress value (Wickelmaier 2003).

**Table 1.** Stress value and compatibility

Stress value	Compatibility
$\geq 0,20$	Incompatible
0,100 - < 0,200	Low
0,050 - < 0,100	Good
0,025 - < 0,050	Perfect
0,000 - < 0,025	Full

MDS provides the evaluation of the observational distances, and the compatibility of the configuration distances by showing them in a graph called the Shepard diagram. In the diagram, a scatterplot graph is constructed such that the observed distances are located on the Y axis and the disparity values are located on the X axis (Şahin et al., 2006).

### 3. WHAT IS HUMAN DEVELOPMENT INDEX?

Human development is a concept about the enrichment of human life, beyond the richness of the economies in which humans live. Human development is an approach that focuses on the opportunities people have and their opportunities. Beyond the richness of the economies in which the people are living, human development is a concept about thriving of the human life. Human development is an approach focusing on the people themselves and the opportunities they have. With the finding that the economic growth does not bring automatic growth in wealth for everyone, human development focuses on the role of the people themselves in bringing human life to a better condition. Growth in income is only a tool rather than a final goal.

Human development is about providing more freedom and opportunity to the people for living their lives as they wish. For this, people should be able to improve and use their capabilities. Mainly, human development means having more alternatives and more opportunities, and this must be the key reference in human development. Nobody can guarantee the happiness of the human being and the choices which people would make in his or her lives concern only themselves. However, human development at least aims to provide the necessary conditions to all the people individually or collectively for improving their potentials and spending a productive and creative life.

Human development is more chances to choose, more opportunities; This should be the basic reference for human development. No one can guarantee man's happiness, and the choices that people will make for life are of interest to them. However, human

development, at least, aims to provide the conditions necessary for the individual and collective development of their potential, productive and creative life for all people.

Human development is a multidimensional concept. The three variables used by the United Nations in Human Development Index (HDI) constitute the key dimensions of human development. These key dimensions are a long and healthy life, being knowledgeable and have a decent standard of living. When these key dimensions are provided at first, the progress and improvement opportunities in other areas of human life will also grow.

The Human Development Index is a measure of the lifespan, literacy, education and level of living for countries. This index indicates that one country is developed, developing or undeveloped country; as well as the extent to which the effect of the economy affects the quality of life. The Human Development Index was first developed by Pakistani economist Mahbub ul Haq in 1990 and since 1993 has been presented by the United Nations Development Program in the annual Human Development Report.

The Human Development Index considers three major developments in countries:

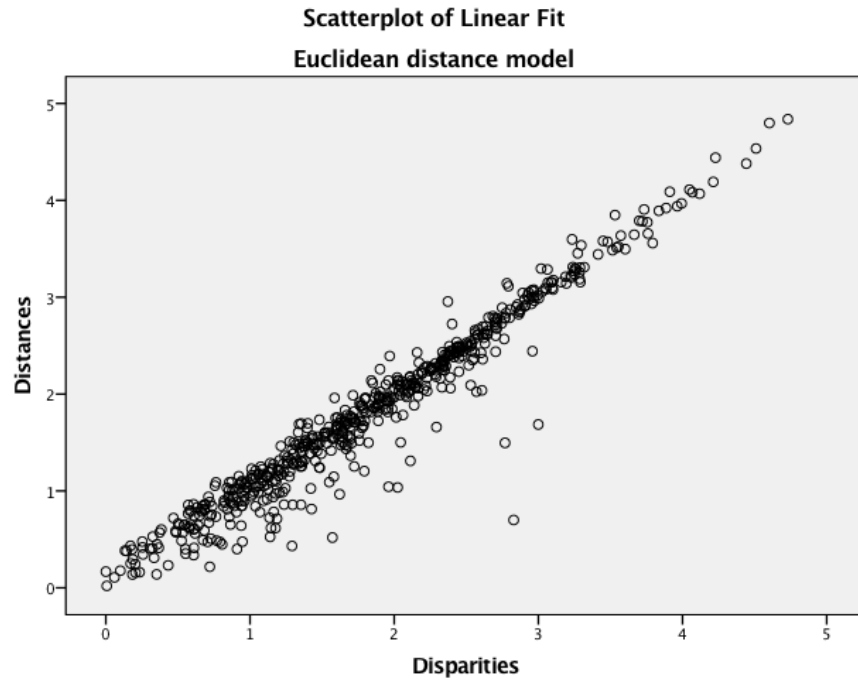
- A long and healthy life; the measurement is made with the average lifespan.
- Information is measured by literacy rate (2/3) and percentage of primary, high school and university records (1/3).
- A reasonable level of living is measured by calculating per capita income and purchasing power in US Dollars (Ingev, 2018)

#### **4. RESULTS**

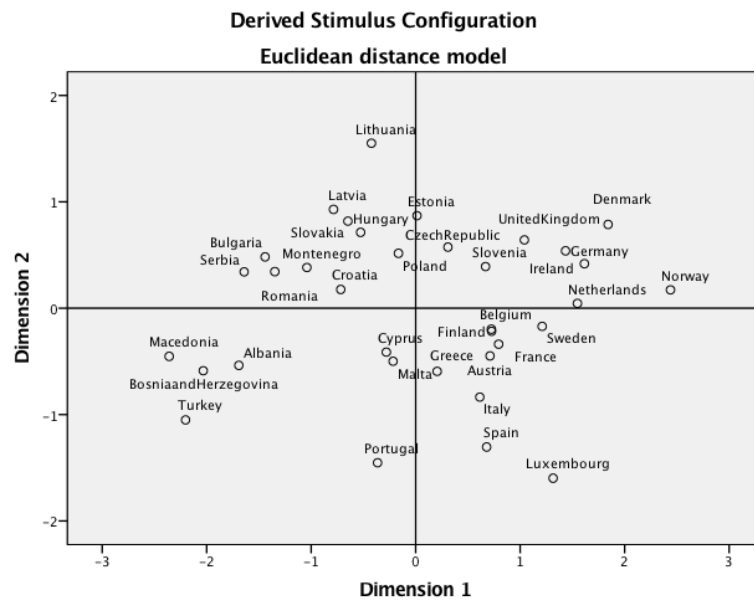
HDI components of 35 countries were located, and two-dimensional distributions of similar countries were extracted with the multidimensional scaling analysis.

The suitability of the analysis results was determined by Kruskal stress values. In our study, Kruskal stress value is 0.11075 and determination coefficient ( $R^2$ ) 0.94 were calculated in the two-dimensional representation of the MDS analysis. The two-dimensional geometric representations of the data showed a good fit in the linear form, and it was determined that the observational distances and the differences are in a linear relationship in Shepard diagram (Figure 1).

**Figure 1.** Euclidean Distance Model Between Disparities and Distances



**Figure 2.** Two Dimensions Representation of Countries' HDI Components





According to the results, Turkey, a candidate country Macedonia, Albania and potential candidates Bosnia and Herzegovina took place in the same group. Although Turkey's per capita income is higher than these countries, mean schooling and life expectancy scores are lower than them. Other candidate countries, Serbia and Montenegro, were located in the same group with member countries Bulgaria, Romania, Slovakia, Latvia, Hungary and Croatia. Figure 2 shows that Norway, Luxemburg, Portugal and Lithuania are not in a group with other countries. This means that the countries have separated from other countries due to their different component values.

## 5. CONCLUSION

Economic growth cannot be considered a stand-alone measure of social development or development. Social development refers to the multifaceted improvement of living conditions in a society. If the revenues obtained are not distributed in a balanced manner in the social field, growth means that a segment is enriched. Turkey's human development index of 0.767 and its order is 71 in the world ranking. Turkey's HDI has just located on above of the Macedonia, Albania, Bosnia and Herzegovina.

According to MDS result, Turkey, Macedonia, Albania and potential candidates Bosnia and Herzegovina took place in the same group. Other candidate countries, Serbia and Montenegro, created the other group with current member countries Bulgaria, Romania and Croatia.

Turkey's education expectancy is 14.6 years although the average year of education is 7.9. That length is the lowest among the investigated countries. In Turkey, compulsory education has been increased from 8 years to 12 years in 2012. Shortly, this decision will have a positive impact on HDI. Education needs to transfer more resources, and it should be known that this is an investment for the future of young people.

GNI, which is calculated according to purchasing power parity, is higher than Bulgaria with 18705 US\$ per capita. These two components negatively affect Turkey's human development index. In order to increase Turkey's HDI, pre-school education should be given importance, and the education costs of the youth should be fully compensated by the government.

The countries that low education levels cannot develop and as a result, those countries are listed below in world income distribution. In order to increase the national income of Turkey should give priority to enhancing support real sector investments.

In particular, in order to be affected by the foreign currency currencies in the recent period, emphasis should be given to policies that encourage the production of raw materials that reduce foreign dependency.

## REFERENCES

- Anonymous 2018a. <http://hdr.undp.org/en/composite/HDI> (05.07.2018).
- Anonymous 2018b. <http://hdr.undp.org/en/content/what-human-development> (05.07.2018).
- Aytaç M, Bayram N (2001). Öğretim elemanlarının kariyer tutumlarının gruplandırılması. V. Ulusal Ekonometri ve İstatistik Sempozyumu, 19-22 Eylül 2001, Adana.
- Doğan İ (2003). Kuzularda büyümenin çok boyutlu ölçekleme yöntemi ile değerlendirilmesi, *Uludağ Üniversitesi Dergisi*, 22.
- Filiz Z & Çemrek F (2005). Avrupa Birliği'ne üye ülkeler ile Türkiye'nin karşılaştırılması, 7. Ulusal Ekonometri ve İstatistik Sempozyumu, İstanbul.
- Ingev (2018) <http://ingev.org/hakkimizda/insani-gelisme-nedir/> (08.07.2018).
- Johnson R Wichern D (1999). *Applied Multivariate Statistical Analysis*. 3rd ed. Jersey.
- Oğuzlar A., (2001). Çok boyutlu ölçekleme ve kümeleme analizi arasındaki ilişkiler. V. Ulusal Ekonometri ve İstatistik Sempozyumu 19-22 Eylül 2001, Adana.
- Özdamar K (2004). *Paket Programlar ile İstatistiksel Veri Analizi*, Kaan Kitabevi, Genişletilmiş 5. Baskı.
- Tatlıl, H. (1996). *Uygulamalı Çok Değişkenli İstatistiksel Analiz*. Akademi Matbaası, Ankara, 424.
- Tüylüoğlu Ş. & Karalı B., (2006). *SÜ İİBF Sosyal ve Ekonomik Araştırmalar Dergisi*, 53-88.
- Wilkemaier F (2003). *An introduction to MDS*, Sound Quality Research Unit, 2003.
- Şahin A.; Abay C. & Miran B (2006). Tarımsal ve sosyo ekonomik özellikler açısından Türkiye'nin AB'ne uyum olanaklarının değerlendirilmesi: bir MDS uygulaması. Türkiye VII. Tarım Ekonomisi Kongresi, 13-15 Eylül 2006, Antalya

## **Cross-cultural Perspective of Sustainable Aviation Management**

Jane Paunkovic<sup>1</sup>, Violeta Jovanovic<sup>2</sup>

### **Abstract**

Cultures have an important impact on management practices, and cross-national cultural differences have been found to affect professional behaviour in general. Cultural differences infer differences in management practices, including organisational design. Appropriate design of the organization comprises a myriad of factors, but Hofstede has found that organisational systems work optimally when their design is consistent with the underlying values and culture of the society. Organisational culture and the formal organisational structure must be harmoniously interrelated and aligned with the national culture in order for a managerial mechanism to operate effectively.

In aviation, the higher accident rate in developing countries in comparison with Western (North American/Western European) countries has been found to relate with the mismatch between aviation system technology and the dominant national culture of the person using that technology.

In this paper, authors have attempted to identify the basic cultural values of the employees in several Serbian companies (including some aviation personal) using factor analysis method. The investigation was conducted by questionnaires and unstructured interviews to assess participant's views. Special emphasis is placed on the development of the national cultural dimension's framework based on Hofstede's cultural dimensions 6-D model and its utility. Results support the usefulness of the categories Hofstede developed and their relevance in a variety of scientific fields and ordinary management practice.

**Keywords:** Cultural differences, Cultural dimensions framework, Factor analysis, sustainable.

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## **1. INTRODUCTION**

Modern aviation is the global enterprise, and cultural factors are deeply embedded in the very nature of the aviation system. Sets of beliefs about what is perceived generate subtle differences in how the business of safe and efficient transportation is conducted in different contexts (Helmreich & Merritt 1998).

In the last decades of 20<sup>th</sup> century, the impact of culture on the performance of organisations has become a growing concern in western industries with the globalisation of companies. The aviation industry has accepted challenges of change to solve organisational adjustment through two different pathways. One was by recognising the scientific efforts of numerous scholars: Michael Kaplan from the US Army Research Institute (Kaplan, 1995), Meshkati (1989), Redding & Ogilvie Neil Johnston and many others.

The second approach included expensive and painful accident investigation. The National Transportation Safety Board of the United States had published some accident reports in which the subject of corporate culture and its influence in shaping human and organisational performance received considerable attention (NTSB, 1990). A Boeing study (Weener & Russell, 1993) showed that for the years 1959–1992, the proportion of accidents in which the crew was considered a causal factor varied in a ratio of about one to five concerning the region of origin of the airline. Between 1994 and 1997, as some accidents involving Western-built technology took place in “other cultures” it was found that contributing factors included misunderstandings in the use of the English language, contextually unfriendly human-technology interfaces and difficulties in other cultures’ human interactions. The evidence in favour of pursuing cultural factors in aviation became obvious.

Culture is commonly seen as a set of shared behavioural attractors (values, beliefs, attitudes) written in people’s minds. Hofstede defined culture as the collective programming of the mind which distinguishes the members of one group from another and proposed that it could be conceptualised and measured through different value dimensions (Hofstede & Bond 1988). Based on surveying attitudes of 116,000 employees within subsidiaries of IBM in 40 countries and three regions Hofstede in 1980 proposed four basic cultural dimensions, largely independent of each other: (1) Individualism vs Collectivism, (2) Power Distance (3) Uncertainty Avoidance, and (4) Masculinity vs Femininity. Collectivism is measured by the Individualism Index (IDV) ranging from 0 (low Individualism, high Collectivism) to 100 (high Individualism). Power Distance is measured by the Power Distance Index (PDI) ranging from 0 (small PD) to 100 (large PD). Uncertainty Avoidance is measured by the Uncertainty Avoidance Index (UAI) ranging from 8 (lowest UA country) to 112 (highest UA country). Masculinity vs Femininity is measured by the Masculinity Index (MAS) ranging from 0 (low Masculinity) to 100 (high Masculinity).

Merritt (2000) replicated Hofstede's work to explore cross-cultural similarities and differences concerning attitudes toward flight management and the link to safe operations. Her findings revealed significant differences in attitudes toward authority and the extent to which people preferred to make decisions. Helmreich and Merritt (1998) found that two dimensions were correlated with safety performance: power distance and collectivism/individualism (Helmreich & Merritt, 1998).

Cultures and cultural differences have an important impact on management practices (Newman & Nollen, 1996; Trompenaars & Hampden-Turner, 1998). Organisational culture and organisational learning are found to be considerably influenced by national culture (Hofstede, G. (2001). For organisational culture to function effectively as a part of the managerial mechanism, the organisational culture and the formal organisational structure must be harmoniously interrelated (Worley; Hitchin & Ross, 1996). The structure and culture of an organisation must be aligned with the demands and predispositions of the national culture in which the organisation is embedded.

Even economic theory recognises the importance of culture in shaping the behaviours of individuals and institutions. It proposes that besides the formal, the informal institutional context (termed as "cultural socialisation") influences the governance structures that individual coordinate action within firms (Festing, 2006).

Hofstede's original research into national cultures included the former Yugoslavia as the only East European country. After the disintegration of the former Yugoslavia Hofstede adapted the original data into data on the national cultures of Slovenia, Croatia and Serbia (Hofstede, 2001). According to Hofstede, the Serbian national culture is characterised by high PDI - 86, high UAI- 92, Collectivism – low Individualism (IDV)- 25, and high to medium Femininity– low to medium Masculinity (MAS )- 43.

Cross-cultural analyses are important to show that what may work in one culture, may not be appropriate in another (Hofstede, 1980). The attempts to transport Western practices to other nations where the culture is incompatible with the practices are likely to fail (Gomez-Mejia & Palich, 1997) which could be very precarious in the aviation industry (Jing; Lu & Pen, 2001; Jing & Batteau, 2015).

## **2. RESEARCH**

This study aimed to investigate the values of employees in certain organisations in Serbia and delineate the group of factors that respondents considered significant using Factor Analysis. The unassuming goal was to determine whether there are respondents' values indicating their interest in learning and improving, and to explore the possible association with national culture dimensions according to Hofstede's model of national culture for Serbia, based on the obtained group of factors. The study included 86 employees in the companies from different sectors in Serbia and 18 pilots working for Serbian aviation

companies. During the unstructured interviews and questionnaires, examinees were asked to grade (1- not important; 5 - very important) 12 questions on a scale of 1 to 5 in the questionnaire. The questionnaire was developed by the methodology which the authors described in details in their previous research (Paunković, 2014).

### **3. RESEARCH RESULTS AND DISCUSSION**

To identify the factors that represent the basic ideas, and in order to find the most important components and values of examinees, the factor analysis was used.

Factor Analysis was used in order to identify the factors that represent the basic ideas and find the most important components and values of respondents in the survey. Table 1 represents the descriptive statistics with an average score between the variables.

The level of the coefficient of correlation between variables for this analysis is over  $\pm 0.3$ . After the leakage tests carried out for the analysis of the main components and calculation of a common variation over the extracted variance, the indicators that simultaneously vary were provided and thus, in fact, correlate to a new dimension which forms a set of common factors. To calculate the amount of common variability the Kaiser criterion was used.

After the application of the so-called rotation of factor space which has the ultimate aim of facilitating the interpretation of the results, it can be concluded which indicators can remain in the analysis. The orthogonal rotation is used, and it displays the indicators with high variance values which vary in the new impact factors.

**Table 1.** Descriptive Statistics

<b>Questions from the survey</b>	<b>Average rating (various companies)</b>	<b>Average rating Pilots</b>
Support from superiors	4,67	4,37
Participation of superiors	2,83	3,62
Obtaining clear instructions from superiors	4,68	4,75
Independence in work	4,1	4,37
Independent decision-making	4,02	4,75
Good relations with colleagues at work	4,79	4,75
Good communication with superiors	4,78	4,75

Verification of individual performance through the salary	4,2	4,12
Career development through individual impact	2,78	4,25
Support for professional training	4,28	4,5
Planning ahead for future events	4,26	4,5
Taking care of the present without thinking about future events	2,72	4

After the analysis, it is possible to mark off the matrix of rotated components with their saturation by each indicator in the first, second, third and fourth components.

It is possible to allocate two variables with the highest values from the table - independence in work and independent decision-making. This would be a group of factors relating to the value of independence of the employee.

In the matrix of rotated components with their saturation by all indicators of the second component, variables with the highest values in the table are clear instructions from superiors and good communication with superiors. This is a group of factors relating to communication with superiors.

Significant for the research of values of employees that determine their interest in learning and continuous improvement is the resulting matrix of rotated components with their saturation by each indicator of the third component.

In the matrix of rotated components with their saturation by each indicator of the fourth component, the components with the highest values in the table are supported by superiors and superiors participate in their work. This is a group of factors relating to the support of the employees by superiors.

#### **4. DISCUSSION**

The analysis indicated that employees in the companies where the research was conducted have positive attitudes towards learning and professional development presented by the average score of this question  $\approx 4.5$ . Support from superiors is very important to employees (average score 4.6), obtaining clear instructions about the job by their supervisors (4.62) and good communication with them, with an average score which is close to 5 (4.85). Minor average score given to the concern for the present about the future, argues that their future is important even more important than the present.

The components with the highest values are supported for professional development and a choice between present and future. These are the factors related to learning and development. According to the results, it can be concluded that positive attitudes of employees towards learning and improvement can benefit organisations to operate on the principles of the knowledge-based economy. Nevertheless, there is one additional factor. According to Hofstede, characteristic of the Serbian national culture is a high degree of *Power Distance* and *Uncertainty Avoidance*. According to the survey, which has already been published in the relevant scientific sources (Paunković, 2014) and which is confirmed by this study, examinees (employees) find the support from superiors the most important, obtaining clear instructions from them as well as good communication with them. This means that *Power Distance* dimension is strongly expressed by respondents in the survey. Getting clear instructions from superiors can also be associated with a low tolerance for uncertainty, and good communication with superiors with both *Power Distance* and *Collectivism*. Individualism versus collectivism in this study presented by the matrix of rotated components with their saturation by each indicator of the first component is thought-provoking. Specifically, in this matrix, two components are extracted, independence in work and independent decision-making. Although the Serbian national culture is characterised by collectivism, it has some features that can be linked to individualism. Characteristics that can be linked to individualism are independence in choosing their style of work and independent decision-making. These features belong in medium-to-high ranking, which confirms the research of Paunković and associates that Serbian culture is "Somewhere in between" of the West and East orientation (Paunković 2014; Paunković, Jovanović, Stojković & Stojković, 2010).

The results of this study suggest that employees have positive attitudes towards learning and training. Nevertheless, for companies to operate on the principles of knowledge-based economy, employees in organisations need support and clear guidance from superiors - managers (executives).

Included in this study are preliminary results obtained from the investigation with pilots working in Serbian aviation companies. Although the group was small (18 examinees), the most prominent features of Serbian national culture have been expressed as hypothesised. Pilots have also emphasize obtaining clear instructions from superiors, independent decision-making, good relations with colleagues at work and good communication with superiors. However, unlike examinees from other (non-aviation) companies, pilots have also valued career development through individual impact, taking care of the present without thinking about future and participation of their superiors in their daily work.



## 5. CONCLUSION

This research has shown that among employees in the investigated companies, there is a positive attitude towards training and the attainment of new knowledge. There is also a positive attitude towards the future. The results obtained by Factor Analysis demonstrate that the attitudes and values of the employees are by the Serbian national culture model derivative from Hofstede's national culture dimensions' framework. The model of Serbian national culture with the characteristically high power distance, collectivism and low tolerance of uncertainty was manifested in attitudes of employees as a need of support from superiors, clear instructions as well as good communication with superiors. Consequently, and in accord with the model of the Serbian national culture characterised by high power distance and uncertainty avoidance, learning and training of employees are primarily subject of the support from superiors.

Results obtained from the investigation of the small group of pilots have presented some interesting particularities that could be a consequence of either specific training for the aviation profession, or a selection process favouring certain predispositions. In any case, the differences that have been observed present an interesting and challenging area of research in the future.

## LITERATURE

- Festing, M. (2006). *International human resource management and economic theories of the firm*, in Gunter K. Stahl and Ingmar Bjorkman (eds.), *Handbook of Research in International Human Resource Management*, Cheltenham, UK: Edward Elgar, 449-462.
- Gomez-Mejia, L.R. & L.E. Palich (1997). Cultural Diversity and the Performance of Multinational Firms. *Journal of International Business Studies*, 28(2), 309.
- Helmreich, R. L., & Merritt, A. C. (1998). *The culture at work in aviation and medicine. National, organisational and professional influences*. Hampshire, UK: Ashgate.
- Helmreich, R.L. & Merritt, A. C. (1998). *The culture at Work in Aviation and Medicine: National, Organizational and Professional Influences*. Ashgate Publishing, Farnham
- Hofstede, G. (2001). *Culture's Consequence*, Thousand Oaks, CA: Sage Publications
- Hofstede, G. (1980). Motivation, Leadership and Organization: Do American Theories Apply Abroad?, *Organizational Dynamics*, Summer, 42-46.
- Hofstede, G. & M. H. Bond (1988), The Confucius connection: From cultural roots to economic growth, *Organizational Dynamics*, 16, 4-21.
- Jing, H.-S. & Batteau, A. (2015). *The Dragon in the Cockpit: How Aviation Concepts Conflict with Chinese Value Systems*. Ashgate Publishing, Farnham

- Jing, H-S.; Lu, C. J. & Peng, S-J. (2001) *Culture, authoritarianism and commercial aircraft accidents*. Human Factors and Aerospace Safety 1.4
- Johnston, N. (1993). Integrating human factors training into ab initio airline pilot curricula. *ICAO Journal*.
- Kaplan, M. (1995). The culture at work: cultural ergonomics. *Ergonomics* 38.3 (1995): 606-615.
- Merritt, A. (2000). Culture in the cockpit: Do Hofstede's Dimensions replicate? *Journal of cross-cultural psychology* 31.3 (2000): 283-301.)
- Meshkati, N. (1989). Technology transfer to developing countries: A tripartite micro-and macroergonomic analysis of human-organization-technology interfaces. *International Journal of Industrial Ergonomics* 4(2), 101-115.
- NTSB (1990). National Transportation Safety Board: Aircraft Accident Report: United Airlines Flight 232, McDonnell Douglas DC-10-10, Sioux Gateway Airport, Sioux City, Iowa, July 19, 1989. NTSB/AAR-90/06. NTSB, Washington, D.C.
- Newman, K. L. & S.D. Nollen (1996). Culture and Congruence: The Fit between Management Practices and National Culture, *Journal of International Business Studies*, 27(4), 753-779.
- Paunković J.; Jovanović R.; Stojković Z. & Stojković I. (2010). Sustainable implementation of information and communication Technology in health care. A case study of organisational and cultural factors. *Sibiu Alma Mater University Journals. Series A. Economic Sciences*, 3(3).
- Paunković, Jane (2014). *Educational Programs for Sustainable Societies Using Cross-Cultural Management Method*. Global Sustainable Communities Handbook: Green Design Technologies and Economics, 387.
- Redding, S. G., & J. G. Ogilvie (1984). Cultural effects on cockpit communications in civilian aircraft." *Proceedings of the Flight Safety Foundation Conference*, Zurich.
- Trompenaars, F. & C. Hampden-Turner (1998). *Riding the waves of culture: Understanding cultural diversity in global business*, 2nd edition, New York: McGraw-Hill.
- Weener, E. F., & P. D. Russell (1993). Aviation safety overview flight safety foundation. *Proceedings of the FSF 46th International Air Safety Seminar/23rd International Conference of the International Federation of Airworthiness*.
- Worley C.G.; Hitchin D.E. & Ross W.L. (1996) *Integrated Strategic Change: How OD Builds Competitive Advantage*. New York, NY: Addison-Wesley Publishing Company.

## **Application of Porter's Five Force Model: The Vegetable Oil Industry in Turkey**

Yasemin Oraman<sup>1</sup>, Gökhan Unakitan<sup>2</sup>, Harun Hurma<sup>3</sup>

### **Abstract**

Perfect competition, which is a theoretical economic model that is used for economic analysis, involves an extremely competitive business environment. A current study is the modern vegetable oil sector, which is a highly competitive environment. In perfect competition, no buyer or seller has the market power to influence prices. Using proper planning and strategies, zero approaching profit can be maximised and helps distinguishing one company from another. Profit cannot be zero because firstly there is no perfect competition in the real business world and no company is a passive price taker. Secondly, companies try to create a competitive advantage to succeed in a competitive environment. Two important factors such as attractiveness and position, determine the profitability of a company in the industry. These factors and techniques are particularly important.

As a conclusion that the vegetable oil industry is one of Turkey's most successful industrial sectors. Top 5 companies that have the largest seed crushing capacity in Turkey are respectively; Reka, Bunge, Ekinata, Trakya Birlik and Mes. This industry in Turkey has important aspects. In this study is used The Five Forces Model for vegetable oil industry was devised by Professor Michael Porter. The model is a framework for analysing the nature of competition within an industry. It helps managers analyse the business environment for competition and understand these five basic competitive forces that have an impact on how successfully a business operates. In the light of this information going forward, we predict increasing competition in the industry, but the form of competition will be different. It will be between large players (with economies of scale), and it may be possible that some kind of oligopoly or cartels come into play. This is because the industry will move towards consolidation. Larger players in the industry will survive with their proprietary products and strong franchisee.

**Keywords:** Porter's five Force, Vegetable oil industry, Competitive, Business environment

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## 1. INTRODUCTION

Globally, supply and demand factors have changed the edible vegetable oil industry (Parcell. et. all, 2018). Vegetable oils constitute an important part of the food cuisine. The demand for vegetable oils has risen steadily catapulted by a combination of factors. The recent years have witnessed emergence of important new actors and trends in supply and demand.

Turkey's oilseeds (soybean, sunflower, rapeseed, safflower and cotton) production has increased by 11% in the 2017/18 season and has reached 3.52 million tons and it is expected to rise to 3.60 million tons' levels in the 2018/19 season. Turkey's crushing capacity has reached 9 million tons and the refinery capacity of edible oil has increased to 4 million tons, while domestic manufacturers continue to invest in new plants. In addition, there is a capacity for the production of 950 thousand tons of margarine. The sector's seed grounding capacity is more than the necessary required to cover the country's needs. However, the insufficiency of the production of unrefined material means that only 2.5-3 million tons of seed are grounded annually. It can be concluded that the vegetable oil industry is one of the Turkey's most successful industrial sectors. This industry in the Turkey has important aspects.

Firms conduct strategic planning to discover and analyse relevant insights that could influence strategy. Competition was very common, often from very similar businesses, but firms attempted to adopt different strategies in order to stay competitive by leading the market. To survive and prosper in a global competitive marketplace, an organization must strive to respond continuously to opportunities and threats posed by a changing environment. Perfect competition, which is a theoretical economic model that is used for economic analysis, involves an extremely competitive business environment. A current example is the modern vegetable oil sector, which is a highly competitive environment. In perfect competition, no buyer or seller has the market power to influence prices. Using proper planning and strategies, zero approaching profit can be maximized and helps distinguishing one company from another. Profit cannot be zero because firstly there is no perfect competition in real business world and no company is a passive price taker. Secondly, companies try to create a competitive advantage to succeed in the competitive environment. Two important factors such as attractiveness and position, determine the profitability of a company in the industry. These factors and techniques are particularly important.

In this study is used The Five Forces Model for vegetable oil industry was devised by Professor Michael Porter. The model is a framework for analysing the nature of competition within an industry. It helps managers analyse the business environment for competition and understand these five basic competitive forces that have an impact on how successfully a business operates.

In this paper is analysed the level of competition in the Turkey vegetable oil industry, through the Porter's Five Forces Analysis, which are: supplier power, buyer power, entry threat, substitute threat and rivalry.

Every market or industry is different. Take any selection of industries and you should be able to find differences between them in terms of (Anonymous, 2018):

- *Size* (e.g. sales revenue, volumes, numbers of customers)
- *Structure* (e.g. the number of brands and competitors)
- *Distribution channels* (how the product gets from producer to final consumer)
- *Customer needs and wants* (the basis of marketing segmentation)
- *Growth* (the rate of growth and which businesses are growing faster or slower than the market)
- *Product life cycle* (the stage of the life cycle for the industry as a whole and products and brands within it)
- *Alternatives for the consumer* (e.g. substitute products)

Top 5 companies that have the largest seed crushing capacity in Turkey are respectively; Reka, Bunge, Ekinata, Trakya Birlik and Mes. Specifically, in this research focused on the food industry from the vegetable oil sector.

*Why do vegetable oil sectors make so little profit (and such big losses)?*

There are several factors, including:

- *Very intensive competitor rivalry – mainly on price*
- *Low barriers to entry – lots of new oil fabrics who want to set up*
- *Customers have lots of substitute options – e.g. olive oil, soya,*

The result of the above differences is that industries vary regarding how much profit they make.

This study aims to explore is the business environment for competition and understand these five basic competitive forces that have an impact on how successfully a vegetable oil business operates in Turkey.

## **2. METHOD**

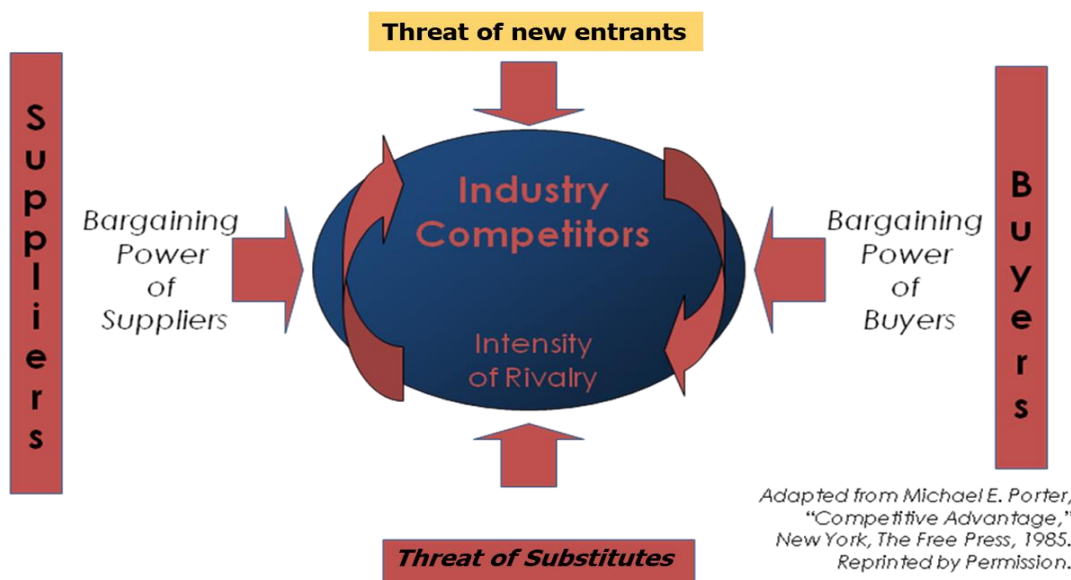
In this study, Michael Porter's Five Forces Model adapted for the food industry in the vegetable oil sector. Evaluated scores of Porter's Five Forces Analysis have been gained from the results of literature market research regarding the sector in June 2018.

In the Five Forces Model, Porter explains that in any industry there are five forces that influence what happens within the industry:

1. *Existing and Potential New Companies*
2. *Buyers*
3. *Substitutes for Products Offered*
4. *Suppliers*
5. *Customers*

It can be seen in Figure 1 the level of competition in the Turkey vegetable oil industry, through the Porter's Five Forces Analysis, which are: supplier power, buyer power, entry threat, substitute threat and rivalry. According to the Five Power Analysis developed by Michael Porter, there are five forces that need to be examined in order to analyse competition conditions in a sector (Porter, 1998). A full-fledged industry analysis would require extensive research, talking with customers, suppliers, competitors, and industry experts. However, as a general overview, the five forces concept provides entrepreneurs with an excellent tool to examine the profit potential in a particular industry. Gaining an understanding of the way in which each of the five forces influences your profitability will provide you with tactics for countering the strength of the forces.

**Figure1.** Elements of Industry Structure: Porter's Five-Forces



Successful marketers are those who can steer their organizations through the turbulent marketing environment, and do it better than competitors. While easy to say, in practice it is not easy to do. Many competitive industries and organisations are very difficult to penetrate, despite all the intelligence techniques that may be available to get information. The purpose of the Competitive Analysis is to thoroughly analyse the competition that will exist for your business. Part of developing a successful business involves being aware of possible competitors and their products.

This paper describes five forces that influence the vegetable oil industry. The paper includes a set of application questions that will help you evaluate the structure of the industry you are in or are considering entering. The more you understand about the strength of each force, the better able you will be to respond. If a vegetable oil company wants to evaluate its competitiveness with five power analysis, it can evaluate according to the answers of the following questions. This is "Yes" or "No" in the space provided. "Yes" indicates a favourable competitive environment for your business. "No" indicates a negative situation. It should be used the insight you gain to develop effective tactics for countering or taking advantage of the situation (Ehmke, Fulton, & Akridge etc., 2018). The forces affecting profitability are often beyond your control, so you must choose tactics to respond to the forces rather than try to change the business environment. This paper offers insight on specific tactics you need for success when facing competitive situations. While vegetable oil managers may assess any one force individually, you will gain the most value by assessing all five of the forces.

Michael Porter has identified five forces that are widely used to assess the structure of any industry (Porter, 1998). Porter's five forces are the:

1. **Rivalry Between Existing Competitors in the Sector:** The existing competitive structure of the sector in which the operator operates, there are hundreds of large and small vegetable oil production facilities in the local and national area. In Turkey, it produces and markets eight margarine, a liquid fat which produces and distributes a total of around 120 companies. While annual per-capita oil consumption is around 27 kg in developed countries, it does not exceed 18-19 kg in Turkey.

( ) Yes ( ) No	1. Are there a few numbers of competitors? Often the greater the number of players, the more intense the rivalry. However, rivalry can occasionally be intense when one or more firms are vying for market leader positions.
( ) Yes ( ) No	2. Is there a clear leader in your market?
( ) Yes ( ) No	3. Is your market growing? In a growing market, firms can grow revenues simply because of the expanding market. In a stagnant or declining market, companies often fight intensely for a smaller and smaller market.
( ) Yes ( ) No	4. Do you have low fixed costs? With high fixed costs, companies must sell more products to cover these high costs.

( ) Yes ( ) No	5. Can you store your product to sell at the best times? High storage costs or perishable products result in a situation where firms must sell the product as soon as possible, increasing rivalry among firms.
( ) Yes ( ) No	6. Are your competitors pursuing a low growth strategy? You will have more intense rivalries if your competitors are more aggressive. In contrast, if your competitors are following a strategy of milking profits in a mature market, you will enjoy less rivalry.
( ) Yes ( ) No	7. Is your product unique? Firms that produce products that are very similar will compete mostly on price, so the rivalry is expected to be high.
( ) Yes ( ) No	8. Is it easy for competitors to abandon their product? If exit costs are high, a company may remain in business even if it is not profitable.
( ) Yes ( ) No	9. Is it difficult for customers to switch between your product and your competitors'? If customers can easily switch, the market will be more competitive, and rivalry is expected to be high as firms vie for each customer's business.

2. **The threat of new entrants:** Generally, enterprises entering into the food industry benefits from higher assets turnover than other branches, especially in primary sectors (agriculture, mining) and real estate activities. Threats created by businesses that have new entry potential in the sector, the vegetable oil sector is a labour-intensive sector, countries have an important place in the industrialization process and the absence of any entry barriers in front of the potential competitors who want to enter this sector for the first time has caused the number of newly entering enterprises and competitor countries to increase in recent years.

( ) Yes ( ) No	1. Do you have a unique process that has been protected? For example, if you are at research and development-based company with patent protection for your research investments, you enjoy some barriers to entry.
( ) Yes ( ) No	2. Are customers loyal to your brand? If your customers are loyal to your brand, a new product, even if identical, would face a formidable battle to win over loyal customers.
( ) Yes ( ) No	3. Are there high start-up costs for your business? The greater the capital requirements, the lower the threat of new competition.
( ) Yes ( ) No	4. Are the assets needed to run your business unique?
( ) Yes ( ) No	5. Is there a process or procedure critical to your business? The more difficult it is to learn the business, the greater the entry barrier.
( ) Yes ( ) No	6. Will a new competitor have difficulty acquiring/obtaining needed inputs? Current distribution channels may make it difficult for a new business to acquire/obtain inputs as readily as existing businesses.
( ) Yes ( ) No	7. Will a new competitor have any difficulty acquiring/obtaining customers? If current distribution channels make it difficult for a new business to acquire/obtain new customers, you will enjoy a barrier to entry.



( ) Yes ( ) No	8. Would it be difficult for a new entrant to have enough resources to compete efficiently? For every product, there is a cost-efficient level of production. If challengers cannot achieve that level of production, they will not be competitive and therefore won't enter the industry.
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3. **The threat of Substitutes:** The threats created by the substitute products outside the active sector, if considered within the framework of Porter's analysis, there is no significant substitute property threat for the vegetable oil sector. However, vegetable oil products, which are described as technical vegetable oil in the future, may gain more substitute properties for the existing vegetable oil products, which may lead to a reduction in demand for these products and a decrease in their prices.

( ) Yes ( ) No	1. Does your product compare favourably to possible substitutes? If another product offers more features or benefits to customers, or if their price is lower, customers may decide that the other product is a better value.
( ) Yes ( ) No	2. Is it costly for your customers to switch to another product? When customers experience a loss of productivity if they switch to another product, the threat of substitutes is weaker.
( ) Yes ( ) No	3. Are customers loyal to existing products? Even if switching costs are low, customers may have allegiance to a particular brand. If your customers have high brand loyalty to your product, you enjoy a weak threat of substitutes.

4. **Bargaining Power of Buyers:** Buyer power depends on the structure of market channels as well as on the character of the product. The cost of your inputs can have a significant effect on your company's profitability. Buyers, in this case, are the large distribution chains. These few companies control a market with huge demand, being able to influence the price. There is a threat of increasing their power by integrating backwards to form part of the production or packaging chain (especially white-label products). Globally, per capita consumption increases have had a slightly stronger effect on vegetable oil consumption than population increases. Preferences also influence customer demands. Research indicates that consumers have a growing understanding of fat and its roles.

( ) Yes ( ) No	1. Do you have enough customers such that losing one isn't critical to your success? The smaller the number of customers, the more dependent you are on each one of them.
( ) Yes ( ) No	2. Does your product represent a small expense for your customers? If your product is a relatively large expense for your customers, they will expend more effort negotiating with you to lower price or improve product features.

( ) Yes ( ) No	3. Are customers uninformed about your product and market? If your market is complicated or hard to understand, buyers have less control.
( ) Yes ( ) No	4. Is your product unique? If your product is homogenous or the same as your competitors', buyers have more bargaining power.
( ) Yes ( ) No	5. Would it be difficult for buyers to integrate backwards in the supply chain, purchase a competitor providing the products you provide and compete directly with you? The less likely a customer will enter your industry; the more bargaining power you have.
( ) Yes ( ) No	6. Is it difficult for customers to switch from your product to your competitors' products? If it is relatively easy for your customers to switch, you will have less negotiating power with your customers.

5. **Bargaining Power of Suppliers:** The vegetable oil processors are dependent on major raw materials – oilseeds (soybean, sunflower, rapeseed, safflower. The bargaining power of suppliers (in this sector farmers and oil producers) is quite weak. This is due to the small size of the companies, which leads to the existence of a large number of them, with high production costs and low competitiveness. The lack of cooperation between them negatively affects their bargaining power against the major distribution chains.

( ) Yes ( ) No	1. Are there a large number of potential input suppliers? The greater the number of suppliers of your needed inputs, the more control you will have.
( ) Yes ( ) No	2. Are the products that you need to purchase for your business ordinary? You have more control when the products you need from a supplier is not unique.
( ) Yes ( ) No	3. Do your purchases from suppliers represent a large portion of their business? If your purchases are a relatively large portion of your supplier's business, you will have more power to lower costs or improve product features.
( ) Yes ( ) No	4. Would it be difficult for your suppliers to enter your business, sell directly to your customers, and become your direct competitor? The easier it is to start a new business, the more likely it is that you will have competitors.
( ) Yes ( ) No	5. Can you easily switch to substitute products from other suppliers? If it is relatively easy to switch to substitute products, you will have a more negotiating room with your suppliers.
( ) Yes ( ) No	6. Are you well informed about your supplier's product and market? If the market is complicated or hard to understand, you have less bargaining power with your suppliers.

It is known that not all of these forces are equally important when assessing the overall attractiveness of an industry (Porter, 1974). In some industries, it is easy to gain entry, but very difficult to get out. Not surprisingly, these industries tend to be mediocre investments.

### 3. CONCLUSION

The paper aims to present an in-depth view on the competitive environment of the Turkey vegetable oil industry. As a conclusion that the vegetable oil industry is one of Turkey's most successful industrial sectors. Top 5 companies that have the largest seed crushing capacity in Turkey are respectively; Reka, Bunge, Ekinata, Trakya Birlik and Mes.

According to analyse, intense competition is expected today and in the future in the vegetable oil sector. The main reason for this is the intense competition among businesses in the sector, the stronger of the buyers, and the continued entry of potential into this sector.

The various problems experienced by the vegetable oil sector hinder its development. The main problem is the lack and low quality of raw materials. The vegetable oil sector works at low capacity as a result of the lack of raw materials. The fact that oil seed producing plants, in particular, are less profitable than alternative products means that there has been a decrease in their cultivation and production.

There are around 120 vegetable oil firms, of small, medium and large size in the sector. Approximately half of these are small, and they work only 1-2 months in a year, at harvest time. These firms are generally active in other sectors such as flour, husk rice, animal feed, milk, as well as producing vegetable oil.

The smaller firms are generally not productive (Inan et al., 2006). The main reasons are the lack of unrefined materials and insufficient finance. The lack of specialisation decreases the productivity motivation of the firms and prevents technological innovations. This causes difficulty in competing with larger companies and raising the unit price.

Although the various problems faced by the sector, the fact that many firms sell under several brand names has brought about intense competition in the sector, also, competition between brand names, competition inside the sales channel has also appeared. In order to survive, it is necessary for firms to adopt consumer-oriented marketing strategies and cooperate with the wholesalers with which they work.

Consumers who recognise that some fats benefit health and desire to eat healthier may adopt products that contain healthier fats. These consumption patterns influence edible oil markets, and agribusinesses marketing oils perceived to be "unhealthy" may face a marketing challenge in geographies with consumers that emphasise healthy products. Consumer attitudes toward environmental sustainability also affect oil demand.

It can be concluded that vegetable oil company in Turkey at this point; they should try to develop high value-added vegetable oil products and should pay attention to R&D work in this direction, so try to make significant differences compared to competing businesses.

## REFERENCES

- Anonymous, (2018) Porter's Five Forces Model of Industry Competition, <https://www.tutor2u.net/business/reference/porters-model-of-industry-rivalry-five-forces> (22.08.2018).
- Cole E.; Fulton, J. & Akridge, J. et al. (2018).  
[https://www.agmrc.org/media/cms/EC722\\_C52B3FA397DBB.pdf](https://www.agmrc.org/media/cms/EC722_C52B3FA397DBB.pdf)
- İnan İ. H.; Kubas A.; Gaytancıoğlu O.; Azabağaoğlu M.O. & Unakıtan G. (2006). The Structure and Fundamental Problems of Vegetable Oil Industry in Turkey, *Journal of Tekirdag Agricultural Faculty*, 3(1).
- Parcell J.; Kojima Y. Roach, A. & Cain. W. (2018). Global Edible Vegetable Oil Market Trends. *Biomed J Sci & Tech Res* 2(1)- 2018. BJSTR. MS.ID.000680. DOI: 10.26717/BJSTR.2018.02.000680
- Porter M. E. (1974). Consumer Behavior, Retailer Power and Market Performance in Consumer Goods Industries, *The Review of Economics and Statistics*, 56(4), 419-436.
- Porter, M. E. (1998). *Competitive strategy: techniques for analysing industries and competitors: with a new introduction*. New York: Free Press.
- Spicka, J. (2013). The Competitive Environment in the Dairy Industry and its Impact on the Food Industry, *Agris on-line Papers in Economics and Informatics*, V(2).

## **Economic and Environmental Effects of Recycling and Waste Management in the Aviation Industry**

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### **Abstract**

A huge increase in the amount of waste material is a major problem today. The most developed economies were the first to face the problem of large quantities of waste leading to increasing environmental pollution. The fact that waste contains a large quantity of potentially hazardous substances has led to the emergence of national recycling development initiatives. Recycling as a process of re-treatment of waste for use as a raw material in the production of the same or different product contributes to the reduction in the consumption of resources from primary reserves, reduction of waste and reduction of environmental pollution.

When it comes to aviation industry, civil air traffic has had a steady growth in the last decades and is one of the more developed sectors of world economy. In this regard, aircraft production is also increasing. On the other hand, it is estimated that in the next two decades, 12,000 aircraft will be permanently grounded due to obsolescence. The great environmental impact of the aviation industry, especially in terms of air quality, noise and handling of solid hazardous waste, requires the development of sustainable environmental practices in the field of waste management. Recycling and an efficient waste management program can contribute to economic, environmental and social benefits for all the stakeholders. The paper will highlight the importance of aircraft recycling and its contribution to increasing the economy of the aviation industry, preservation of natural resources and the environment.

**Keywords:** Recycling, Waste, Aviation industry, Economy, Ecology

### **1. INTRODUCTION**

One of the prejudices is that the protection of the environment comes into conflict with the interests of economic development - GDP growth, the standard of living, job creation. However, at the current level of economic and environmental sciences, the necessity to integrate environmental requirements into the national and global economic development policy is generally accepted, both at the level of individual countries, and a global international level as well.

The ecological crisis is the result of exceeding the tolerance limits of the global natural system. It is a crisis of existence of the modern society about the already frustrated native

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environment. The standpoint that ecological crisis is socially conditioned has long been the common denominator of most theoretical approaches. Since social context is inevitable in interpreting the environmental crisis, it is understandable that this is where we may look for the possible scenarios of progress. The environmentally-friendly form of society is still being sought for, and the concept of sustainable development is one of the possible solutions.

Air transport is one of the world's fastest-growing industries. Today's worldwide tourism and international exchange of goods and services would not be possible without aircraft. The significant growth of the aviation sector will bring considerable economic benefits. However, it will lead to great adverse social and environmental impacts, too. The potentially large environmental impact of the aviation industry regarding air quality, noise, and handling of solid hazardous solid wastes, needs to be addressed by developing more sustainable environmental practices followed by its management, and safe disposal. Technical progress and new developments in aviation industry often go hand in hand with developments in new environmental and waste recycling technologies. Accordingly, only an efficient waste management program may contribute to economic, environmental, operational, and social benefits to all the stake holders (Prashant, 2015). This paper is an attempt to change something in order to reduce waste in aviation, in securing its re-use or delay in a manner that does not cause degradation of the environment.

## **2. RECYCLING – A CONSTITUENT PART OF WASTE MANAGEMENT SYSTEM**

Recycling, as a constituent part of the modern waste management system, provides the reuse of waste material by separating material from waste. Regarding the possibility of re-utilisation, materials can be:

1. Recyclable (can be used by re-returning to the production process);
2. Non-recyclable (cannot be returned to the process and are used for obtaining energy by burning or are stored in an environmentally friendly way);
3. Dangerous – hazardous (materials that are harmful to man and his environment), and
4. Safe (materials that are not harmful to man and his environment) (Grozđanić; Marković-Radović & Jovančević, 2012).

Given the amount of waste on earth, it is impossible to imagine any comprehensive management system without introducing recycling into everyday life. Recycling is applied within the basic waste management principle, more precisely, the 3R rule:

1. Reduce,
2. Reuse. and
3. Recycle.<sup>4</sup>

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<sup>4</sup>[http://www.zerowaste.rs/index.php?option=com\\_content&view=article&id=77&Itemid=79](http://www.zerowaste.rs/index.php?option=com_content&view=article&id=77&Itemid=79)

As a possibility of reducing, waste recycling is a very important activity, especially from the aspect of improving and protecting the environment and economy. The basic ecological importance of recycling is reflected in the conservation of natural resources, energy saving and environmental pollution reduction. In addition to ecological importance, the economic and social importance of recycling is reflected in:

- Raising environmental awareness,
- Preventing environmental pollution,
- Saving natural resources,
- Manufacturing products from recycled components, whereby less energy is consumed than for the production of the same product from raw material,
- Reducing the amount of waste sent to landfills and mitigating the problem of waste disposal.

Today, recycling of waste has a significant importance on business worldwide. Recycling is intensively developing into a big business. Unofficial estimates suggest that today, the world recycling industry is worth about \$410 billion, with about \$56 billion attributable to the US recycling industry. It is estimated that, by 2020, the US recycling industry will be worth nearly \$140 billion. However, in order to establish a recycling process successfully, the condition is to collect large amounts of waste and, above all, primary selection.

In the process of waste management and especially recycling, both locally and globally, there are many problems that threaten to slow down the development of the recycling industry. The most prominent problem is certainly financing, but equally significant is the misunderstanding of competent institutions for the recycling industry, and, of course, insufficient awareness of citizens of the importance of recycling for the development of a country (Cvetanović; Ristić & Đekić, 2017).

The growth of global tourism, domestic and international movement of goods and services would not be possible without the exponential growth of the air transport industry and related services. As a result, commercial aviation is becoming one of the fastest growing industries in the world. Having in mind the fact that more and more laws concerning waste are passed with strict measures, airports and airline companies are trying to modernise their obsolete waste management systems and recovery processes with a particular focus on recycling.

### **3. ECONOMIC EFFECTS OF AIR TRAFFIC AND IMPACT ON THE ENVIRONMENT**

Today there is unprecedented growth in worldwide tourism, domestic and international movement of goods and services, and mobility becomes an integral factor in the lives of people both for recreation and professional reasons. This would not be possible

without exponential growth of the air transport industry and associated services. As a result, commercial aviation today becomes one of the fastest-growing industries in the world.

Civil air traffic is one of the more developed sectors of the world economy. In the past few decades, the volume of air traffic has increased significantly, and such a trend is expected to continue. In Europe, the volume of traffic of 14.4 million operations is expected in 2035, which is 1.5 times more than the volume in 2012.<sup>5</sup> In 2017, over 4.1 billion passengers were carried by the world's airlines.<sup>6</sup>

Commercial aviation has become one of the fastest growing industry sectors in the global economy nearly contributing to 3.5% of global GDP (ATAG, 2014). Aviation provides speedy worldwide transportation network which is a vital part of the increasingly globalised world economy, thus facilitating the growth of international trade and investment, tourism, and connecting people across different continents. It also plays a vital role in facilitating economic growth, particularly in developing countries (Prashant, 2015).

Air transport today carries 0.5% of the volume of trade shipments, and it is 35% of the total value of goods transported ([www.atag.org](http://www.atag.org)). It is expected to grow over the next two decades at an average annual growth rate of nearly 6.5% in freight demand and 05% in passenger traffic when nearly 3 billion passengers will board the aircraft somewhere on earth.<sup>7</sup> The aviation industry itself is a major generator of employment supporting nearly 58.1 million jobs worldwide be it an airline, airport operations, aircraft maintenance, air traffic management, head offices, and activities directly serving air passengers, such as check-in, baggage handling, on-site retail, cargo, and catering facilities and lounge services etc. (Prashant, 2015).

Direct growth impacts also include the activities of civil aerospace manufacturers selling aircraft and components to airlines and related businesses. On the other hand, indirect impacts include employment and activities of suppliers to the air transport industry, for example, aviation fuel suppliers; construction companies that build airport facilities; suppliers of subcomponents used in aircraft (Prashant, 2015).

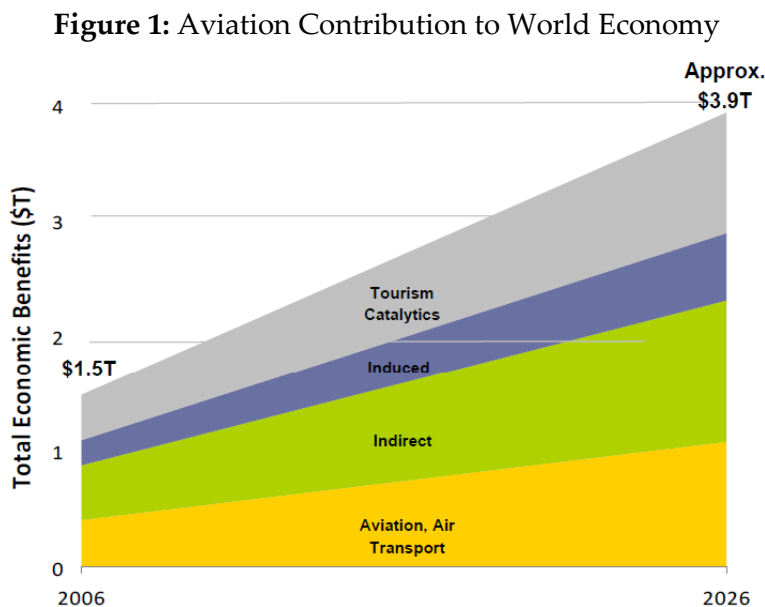
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<sup>5</sup><https://www.eurocontrol.int/sites/default/files/content/documents/official-documents/reports/201307-challenges-of-growth-summary-report.pdf>

<sup>6</sup> <https://www.atag.org/facts-figures.html>

<sup>7</sup><https://www.boeing.com/news/frontiers/archive/2008/september/cover.pdf>





**Source:** ATAG, 2008

A large increase in air traffic has positive, as well as negative effects on society and the environment. Positive effects primarily relate to additional employment within the given sector, as well as in related sectors, to the development of industry and tourism, which further encourages the local and global economy, and thus contributes to general progress (Petrić, 2016). Negative effects include both direct and indirect negative impacts on society and the environment. Direct impacts include noise around airports, air pollution at airports, as well as global pollution, jams and delays, generation of waste, incidents and accidents in air traffic, contamination of drinking water and soil resources, etc. (Krstić Simić, 2015). Indirect impacts and possible harmful effects on the environment include those that result from the production of resources for the infrastructure of air transport and services, as well as those from the recycling of certain components of the system.<sup>8</sup>

The potentially large environmental impact of aviation industry particularly airports regarding air quality, noise, and handling of solid hazardous solid wastes, needs to be addressed by developing more sustainable environmental practices followed by its management, and safe disposal (Mehta, 2015).

Sustainable development is the answer to the development of the aviation industry. Sustainable development takes the three areas of economy, society and environment and finds ways of balancing the three interests to produce the results that will benefit most people. The aviation industry is conscious of aviation environmental impacts and its contribution to climate change. Airlines produced nearly 705 million tonnes of Carbon

<sup>8</sup> Air Traffic Management Strategy for years 2000+, (2003) Executive summary, Eurocontrol

dioxide in 2013, which is 2% of the total carbon emissions of over 36 billion tonnes.<sup>9</sup> Worldwide, flights produced 859 million tonnes of CO<sub>2</sub> in 2017. Globally, humans produced over 40 billion tonnes of CO<sub>2</sub>.<sup>10</sup> Many airlines have recognised the benefits of environmental management systems (EMS), but the standards and frameworks for EMS are challenging to implement in the airline industry context.

#### 4. ECONOMIC AND ECOLOGICAL EFFECTS OF AIRPLANE RECYCLING

The aviation sector is undergoing a challenging and ambitious paradigm shift towards sustainable practices and operations, and one area where progress is being made is at the end of an aircraft's life. Today, a commercial aircraft has an average retirement age of around 25 years, after which an arduous and highly technical dismantling and recycling process follows – all part of a lucrative market valued at over at \$80m per year.<sup>11</sup>

The exact number of aircraft thought to need scrapping before 2030 varies significantly: the Aircraft Fleet Recycling Association (AFRA) estimates that 12,000 aircraft could be retired in the next 20 years; Avolon's World Fleet Forecast puts that figure at 13,000, and Flightglobal's calculations go up as high as 17,000.<sup>12</sup>

For most commercial aircraft today, 80%-85% can be recycled depending on the type, and even up to 99% in certain cases, although this is still quite rare and comes at a higher cost. The figure is a major improvement from just under 50% a few years ago, but challenges remain, particularly in the management of newer materials such as carbon fibre.<sup>13</sup>

Generally, aircraft are composed of some different materials and devices, including long and short carbon and glass fibre composites, wires, aluminium, titanium and steel alloys, foam, textiles and carpet, landing gears, fluids, electronic devices, engines, and other parts. According to Asmatulu et al. sometimes the complexity of materials and devices in aircraft (e.g., military, business jet, and civilian) can reduce the recyclability rate; therefore, during the initial design, manufacturers should consider the EoL of aircraft (Asmatulu; Overcash & Twomey, 2013).

Due to increased production and consumption of aluminium, its recycling is very important. The table shows the world production of selected base metals. This statistic represents the total world production of selected base metals between 2007 and 2017. In 2007, approximately 38.2 million metric tons of primary aluminium were produced for the

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<sup>9</sup> [http://www.globalcarbonproject.org/carbonbudget/archive/2012/CarbonBudget\\_2012.pdf](http://www.globalcarbonproject.org/carbonbudget/archive/2012/CarbonBudget_2012.pdf).

<sup>10</sup> <https://www.atag.org/facts-figures.html>

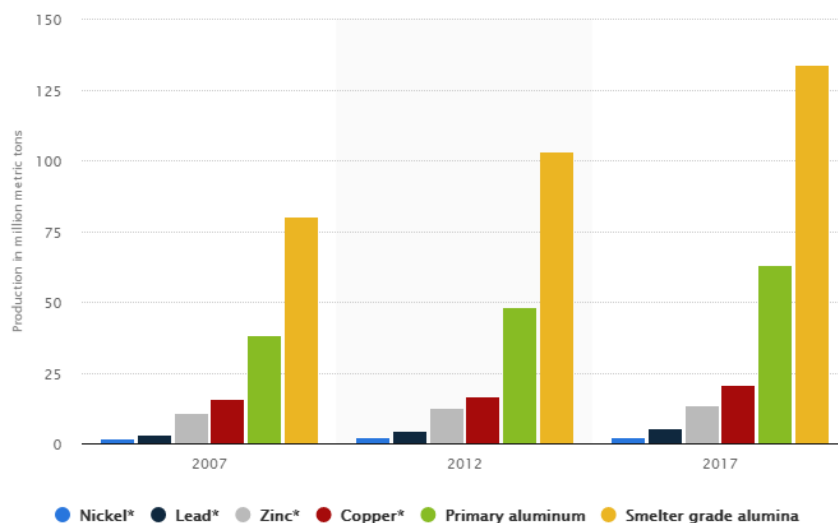
<sup>11</sup> <https://www.airport-technology.com/features/featureaircraft-recycling-up-to-the-challenge-5710942/>

<sup>12</sup> <https://afraassociation.org/>

<sup>13</sup> <https://www.airport-technology.com/features/featureaircraft-recycling-up-to-the-challenge-5710942/>

world market. Base metals refer to non-ferrous metals excluding precious metals.<sup>14</sup> The picture shows that the production of all metals, including aluminium, has increased.

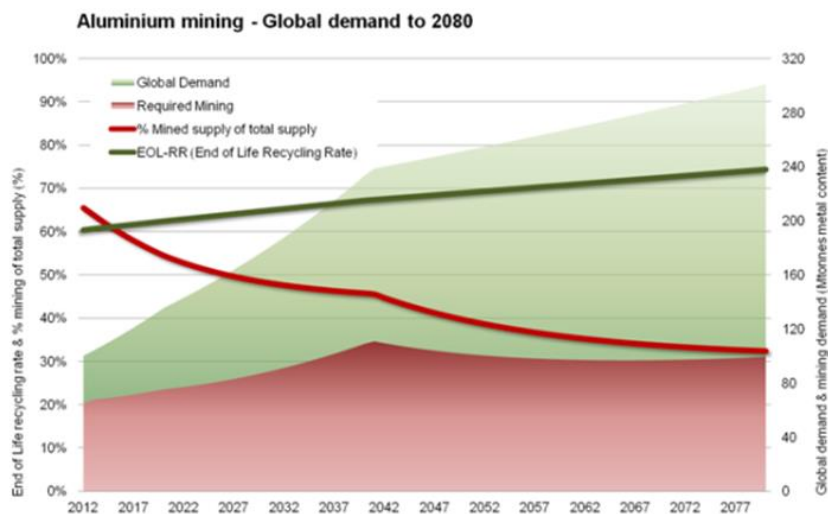
**Figure 2:** Total world production of selected base metals between 2007 and 2017



**Source:** <https://www.statista.com/statistics/241004/base-metal-production-by-type/>

The following figure shows the global demand for aluminium up to 2080.

**Figure 3:** Aluminium mining – global demand to 2080



**Source:** <https://thebusinessofmining.com/2012/04/15/recycling-the-future-of-mining>

<sup>14</sup> <https://www.statista.com/statistics/241004/base-metal-production-by-type/>

Global demand for almost all mined metal will increase rapidly for the next decades, despite all the improvements in scrap collection and recycling rates. The rapid growth of population and resource intensity will put pressure on miners to bring more capacity on the line up to approximately 2040. However, then the changing landscape becomes evident: population growth and resource intensity growth slow down and start to be outstripped by improved recycling performance. Although global demand for metals continues to increase, demand for mined supply starts to decrease slowly, with mining only accounting for 30-40% of total supply in 2080 versus 50-80% in the current situation. The initial rapid increase and the consecutive slowdown and a decrease of mined supply lead to a situation in which demand for mined copper and aluminium in 2080 is only slightly higher than current demand.<sup>15</sup>

The major components that can be recycled from aircraft include wires, electronics, aluminium and other alloys, stainless steel, other organic and inorganic compounds, and carbon and glass fibres (Carberry, 2011). Recycling offers economic and environmental benefits because of less energy consumption, labour, and emissions (solid, liquid, and air). The energy consumption of the recycling process is 5% of that required for first-generation aluminium production. According to Asmatulu et al., recovered scrap metals are reasonably pure, so that the recovered aluminium alloys and other parts can be reused directly in the aerospace industry.

In addition to economic returns, recycling has environmental benefits, as well. For example, aluminium manufacturing is an energy-intensive process due to the electrolysis step (or Bayer process). However, when aluminium is directly recovered and reused, it reduces the initial energy by 90% (Airbus, 2008) which in turn also reduces raw material consumption.

The safe and responsible recycling of commercial aircraft is one of the main challenges facing the global aviation industry. With around 12,000 commercial aircraft to be decommissioned over the next 20 years, manufacturers and operators are working towards the development of the 100% recyclable airplane.<sup>16</sup>

## **5. SOME INTERESTING EXAMPLES OF RECYCLING AIRPLANES**

The withdrawal of civil and military aircraft from commercial and official use and their permanent landing does not necessarily mean the definite end of those aircraft. It can be an opportunity for their owners to make some money.

Old airplanes that have served their service are mostly large fuel consumers and too expensive to maintain. They, therefore, end up on side runways or in hangars. Due to their

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<sup>15</sup> <https://thebusinessofmining.com/2012/04/15/recycling-the-future-of-mining>

<sup>16</sup> <https://www.airport-technology.com/features/featureaircraft-recycling-up-to-the-challenge-5710942/>

dimensions, their disposal is not cheap because it requires much space. Problems with retired aircraft could increase in the future. According to AFRA<sup>17</sup>, an organisation dealing with airplane disposal and recycling issues, in the next two decades, 12,000 aircraft will be permanently grounded due to old age. For this reason, aircraft owners are looking for efficient, viable and environmentally safe methods for the disposal of such aircraft and for ways to make the end of aircrafts' end of flying career painless and, if possible, profitable.

Even though they can no longer fly, the written off planes have several possibilities to prolong their life cycle. The luckiest ones end up protected in museums. A small number can get a new chance in the film industry. The largest part of them will be cut off, but even on that path there are several options. The worst and most expensive option is to leave the aircrafts to "lie" and decay.

In the hands of imaginative designers, architects or artists, the fuselage, wings, and other parts of airplanes, often become furniture or are adapted to restaurants, ho(s)tels and cottage homes, cinemas, or even ships. Converting airplane fuselage to objects for various purposes can often be more cost-effective than building a classic object, and in doing so, much more attractive. That is why nearby some airports the biggest attractions are restaurants in old grounded airplanes<sup>18</sup>.

Artists and designers make various sculptures or furniture from aircraft parts. Original, hand-made beds, chairs, and other pieces of furniture made of parts of wrecks that once cruised the sky, usually end up in the hands of rich clients. The initial price of unique tables made from airplane wings, for which an art gallery in Los Angeles has specialized, is about \$6,500, and for larger pieces, it reaches \$10,000.

A large number of written off planes continue their lifespan by "donating" parts that are installed in aircrafts that are still in commercial use. The profit from selling such parts is often higher than the cost of maintaining old airplanes in flying condition. The waste from commercial and military planes is very useful and will be necessary as long as there are planes that fly because it keeps them in the air.<sup>19</sup>

## 6. CONCLUSION

The significant growth of the aviation sector will bring considerable economic benefits. It will lead to great adverse social and environmental impacts, too. There is increasing public concern about the impacts of aviation growth on local communities and the environment.

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<sup>17</sup> <https://afraassociation.org/>

<sup>18</sup> <https://apex.aero/restaurants>

<sup>19</sup> <http://bif.rs/tag/avioni/>

A growing economy has led to the increasing use of aviation services by more and more people. This results in a huge amount of waste generated by airline companies and airports, as well as larger aircraft production. A large amount of natural resources is consumed in the aircraft production industry, which negatively affects sustainable development.

On the other hand, a large number of aircraft are getting old and lose the ability to perform their function, so it is estimated that in the next two decades, 12,000 aircraft will be permanently grounded due to old age. The landing of a large number of airplanes leads to the generation of a large amount of waste, which also negatively affects sustainable development.

Aircraft recycling achieves numerous benefits: economic, ecological and social. Recycling contributes to the reduction of production of metals from primary reserves. In the case of the aviation industry, the recycling of airplanes primarily reduces aluminium production from primary reserves. There is also the reduction of a large amount of waste that is generated by the disposal of old airplanes.

In addition to classic recycling, an adaptation of old airplanes to restaurants or residential objects, as well as the use of their parts for making artistic sculptures or unique furniture, can greatly contribute to waste reduction and implementation of the concept of sustainable development.

## LITERATURE

- Air Traffic Management Strategy for years 2000+, (2003) Executive summary, Eurocontrol
- Airbus (2008). Airbus, France S.A.S. "PAMELA-Life Main Project Result" 2008, [http://www.pamelalife.com/english/results/PAMELALife-project\\_results-Nov08.pdf](http://www.pamelalife.com/english/results/PAMELALife-project_results-Nov08.pdf).
- Asmatulu, E., Overcash, M., & Twomey, J. (2013). Recycling of Aircraft: State of the Art in 2011. *Journal of Industrial Engineering*, 2013.
- ATAG, 2008 - Air Transport Action Group, The Economic and Social Benefits of Air Transport 2008
- ATAG, 2014 - Aviation Benefits Beyond Borders (2014), Air Transport Action Group, pp 4
- Cvetanović, B. Ristić, M., Đekić, P., 2017. Analiza stanja i potencijali reciklaže u Republici Srbiji, Četvrti naučni-stručni skup Politehnika, Beograd, str. 17-23
- Grozđanić, R.; Marković-Radović, M. & Jovančević, D. (2012). Reciklaža kao rastuća tržišna niša socijalnih preduzeća, Preuzeto sa, [http://ebooks.ien.bg.ac.rs/268/1/mrm\\_2012\\_01.pdf](http://ebooks.ien.bg.ac.rs/268/1/mrm_2012_01.pdf)

- Krstić Simić T. (2015) Uticaj taktika upravljanja od strane kontrole letenja na efikasnost funkcionisanja aerodroma, *TEHNIKA – SAOBRAĆAJ* 62 (2015) 4
- Mehta, P., 2015. Aviation waste management: An insight. *International journal of environmental sciences*, 5 (6), pp. 179-486.
- Petrić M, Budućnost upravljanja vazdušnim saobraćajem: ATM Master plan i SESAR, diplomski rad, Fakultet za saobraćaj, komunikacije I logistiku, Budva 2016
- Prashant Mehta (2015) Aviation waste management: An insight, *International journal of environmental sciences*, Volume 5, No 6.
- Sl. glasnik RS br.29/10, 2010. Strategija upravljanja otpadom za period 2010-2019.godine.
- W. Carberry, "Airplane Recycling Efforts Benefit Boeing Operators," 2011, [http://www.boeing.com/commercial/aeromagazine/articles/qtr\\_4\\_08/pdfs/AERO\\_Q4\\_08\\_article02.pdf](http://www.boeing.com/commercial/aeromagazine/articles/qtr_4_08/pdfs/AERO_Q4_08_article02.pdf).
- <http://bif.rs/tag/avioni/>
- <https://www.boeing.com/news/frontiers/archive/2008/september/cover.pdf>
- <https://www.eurocontrol.int/sites/default/files/content/documents/official-documents/reports/201307-challenges-of-growth-summary-report.pdf>
- [http://www.globalcarbonproject.org/carbonbudget/archive/2012/CarbonBudget\\_2012.pdf](http://www.globalcarbonproject.org/carbonbudget/archive/2012/CarbonBudget_2012.pdf)
- [http://www.zerowaste.rs/index.php?option=com\\_content&view=article&id=77&Itemid=79](http://www.zerowaste.rs/index.php?option=com_content&view=article&id=77&Itemid=79)
- <https://afraassociation.org/>
- <https://apex.aero/restaurants>
- <https://thebusinessofmining.com/2012/04/15/recycling-the-future-of-mining/>
- <https://www.airport-technology.com/features/featureaircraft-recycling-up-to-the-challenge-5710942/>
- <https://www.atag.org/facts-figures.html>

## **Sustainable Aviation: GIS for Airport**

Balca Ağaçsapan<sup>1</sup>

### **Abstract**

Around 7.6 billion people and millions of lives share the same environment around the world. In order to ensure the prosperity of all living beings on the earth, we need to manage effectively the whole area of the environment we are in. The Brundtland Report on Environment and Development in 1987, the Rio Summit which took place in 1992, are the main activities that have gained momentum for sustainable environmental management movements. Within the context of sustainable development approach to managing human activities in harmony with nature, natural, economic and social elements for sustainable environmental management can be defined together as closely as possible in order to minimise the pressure of human activities on the environment and to prevent or mitigate potential future harmful effects should be addressed. Geographic information technologies (GIS) are an effective means of collecting, storing, analysing and interpreting data of various kinds. In this study, it will be mentioned what GIS applications are used in the problem-solving process of the airports and what are the contributions of these applications to the airports in the context of sustainable aviation management.

**Keywords:** Aviation management, Sustainable environmental management, Geographical information systems.

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## **1. INTRODUCTION**

Around 7.6 billion people and millions of lives share the same environment around the world. In order to ensure the prosperity of all living beings on the earth, we need to manage effectively the whole area of the environment we are in. The Brundtland Report on Environment and Development in 1987, the Rio Summit which took place in 1992, are the main activities that have gained momentum for sustainable environmental management movements. Within the context of sustainable development approach to managing human activities in harmony with nature, natural, economic and social elements for sustainable environmental management can be defined together as closely as possible in order to minimise the pressure of human activities on the environment and to prevent or mitigate potential future harmful effects should be addressed.

Civil aviation is one of the fastest growing global industries. Impacts of aviation can be either negative or positive. In its present form, aviation cannot be considered sustainable in the very long term. Because aviation relies on limited natural resources, achieving sustainable development is not easy but need to take an action about sustainable aviation.

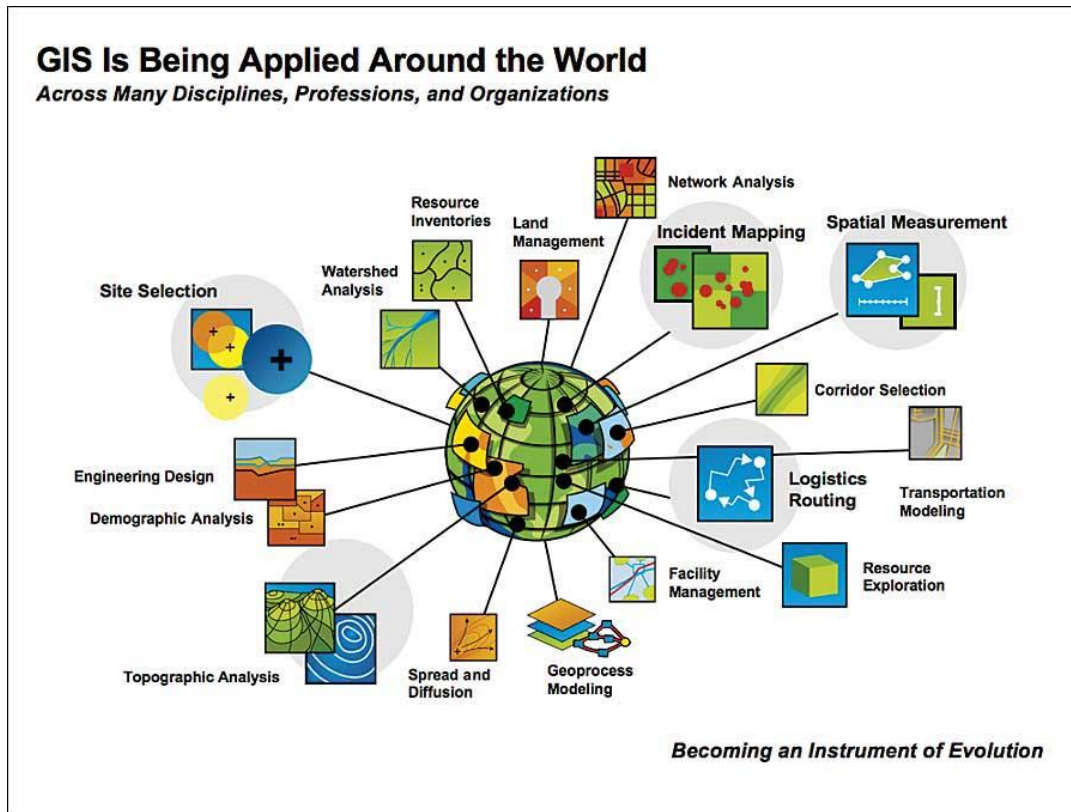
Geographic information technologies – Geographical Information Systems (GIS) are effective tools of collecting, storing, analysing and interpreting data of various kinds. In this study, it will be mentioned what GIS applications are used in the problem-solving process of the airports and what are the contributions of these applications to the airports in the context of sustainable aviation management. (Full-text length should be 8-10 pages)

## **2. GEOGRAPHICAL INFORMATION SYSTEMS**

GIS is the more than an information system; GIS is the way of thinking about everyday data in a spatial context.

GIS can be a great planning and decision making tool for different kinds of discipline. Across many disciplines uses GIS. For instance, environmental earth sciences, many economic and census related studies use GIS. It helps different kinds of disciplines-companies to incorporate geographic data into their working process so that they can easily plan, optimise, maintain, and check other activities.

**Figure 1:** Examples of Different Kinds of GIS Applications and Uses



Source: ESRI, 2007

## 2.1. A GIS for Aeronautical Organizations

Aeronautical organisations need to create and maintain digital aeronautical datasets and produce high-quality, database-driven charts that meet their unique specifications. GIS can help these agencies maintain, control, and disseminate data that meets their requirements. With GIS, aeronautical organisations can (ESRI, 2013):

- Create, visualise, analyse, and disseminate critical data from Aeronautical Information Systems (AIS).
- Automatically update charts through the AIS to reduce data latency, redundancy, and errors.
- Produce a wide range of charting products, including the International Civil Aviation Organization (ICAO)-compliant charts, from a central database.
- Share data using the Aeronautical Information Exchange Model (AIXM).
- Efficiently generate aeronautical charts for route planning, in-flight navigation, and take-off and landing.

Many of aviation organisation uses GIS. For example, Pegasus Airlines uses GIS for data management, editing, and validation. They can reduce chart production time for significant time and cost savings. By using GIS, airline inputs changes to its geodatabase and updates each impacted chart automatically. They also use chart templates for new chart production. These updated digital charts are available in each pilot's electronic flight bag (EFB) tablet, and it supports the airline's move to a paperless cockpit (ESRI, 2012)

## **2.2. GIS for Airport**

Regardless of their size, airports are complex facilities that play a critical role in regional and national transportation. Airport managers must plan and maintain their facilities for peak performance and identify potential points of failure well before a critical failure can occur. Airport managers can use GIS technology to support their efforts in planning, operations, maintenance, and security by adding spatial information and modelling process. Ultimately, GIS helps airports visualise data so they can better understand the relationships between data points and their locations. This result allows to a user that, leading to better decision-making and more effective use of available staff and resources (Coffman Associates, 2016).

Facilities Management, Capital Planning, Property/Lease Management, Land Acquisition, Security and Risk Assessment, Flight Path Management, Airport Layout Planning, Capacity Planning, Pavement Management, Parking Management, Courtesy Vehicle Management, Utility Maintenance, Lighting Management, Noise Monitoring and Modelling and environmental Assessment processes are examples of airport management processes which can done by GIS(ESRI,2013).

## **3. SUSTAINABLE AVIATION; ENVIRONMENTAL ISSUES**

In the late 1980s, early 1990's variety of research programmes identified some emissions and effects from aviation (Lee et al.,2009). The concept of sustainable aviation emerged in the late 1990s with the Intergovernmental Panel on Climate Change (IPCC) Special Report on climate change impacts of aviation in 1999 (IPCC, 1999). The term 'sustainable aviation' emerged in reports such as the work of Sledsens (1998) and INFRAS (2000) (Walker and Cook, 2009).

### **3.1. Impacts of Aviation**

There are lots of impacts of aviation. Impacts of aviation can be either negative or positive. The environmental impacts of contemporary aviation are significant. One of the first impacts of aviation is global scale impacts. Major environmental impact of aviation is global climate change. According to IPCC 5th assessment report and The International Civil Aviation Organization (ICAO)Environmental Report 2016, distribution of emissions of greenhouse gases by industry sector worldwide as of 2015, Emissions from transportation accounted for 13 per cent of greenhouse gases. Total CO<sub>2</sub> emissions from aviation account

for approximately 2% of total global co2 equivalent emissions. Moreover, international aviation accounts for about 13% of total global co2 emission (ICAO, 2016).

More locally, aircraft and airport operations caused noise pollution from take-off and landings, engine testing, surface transport and constructions, so that noise pollution is one of the most serious environmental problems of aviation. Other aviation-related environmental issues include contaminated land, ground and surface water at airports arising from jet fuels, aircraft de-icing operations, waste generation, treating the wildlife and farmland (Upham et al., 2003).

Besides the environmental impacts, the aviation industry has a social and economic impact. Aviation industry causes affordable access to destinations across the globe, creating a job, facilitating tourism and trade and influences tax revenue (ICAO, 2017).

However, it is obvious that the social, economic and environmental dimensions created by airports directly influence urban, regional and national sustainable growth. Within this context, either negative or positive impacts created by aviation-related processes should be predicted and managed by decision makers.

### **3.2. Sustainable Aviation Goals**

The International Civil Aviation Organization (ICAO) 's environmental work contributes to 10 out of the 17 United Nations Sustainable Development Goals. These sub topics are good health, quality education, gender equality, renewable energy, innovation and infrastructure, reduced inequality, responsible consumption, climate action, life on land, a partnership for goals, environmental efficiency and mitigation are main goals of sustainable aviation. This study much more focus on environmental goals. The International Civil Aviation Organization (ICAO) adopted three major environmental goals, too (ICAO, 2016):

- a. Limit or reduce the number of people affected by significant aircraft noise;
- b. Limit or reduce the impact of aviation emissions on local air quality; and
- c. Limit or reduce the impact of aviation greenhouse gas emissions on the global climate.

## **4. CONTRIBUTIONS OF GIS FOR SUSTAINABLE AVIATION**

GIS provides avoiding irreversible adverse effects of human activities on earth systems. Adverse effects can be obtained before aroused, by using GIS-based modelling techniques. For instance, we can solve the noise problem.

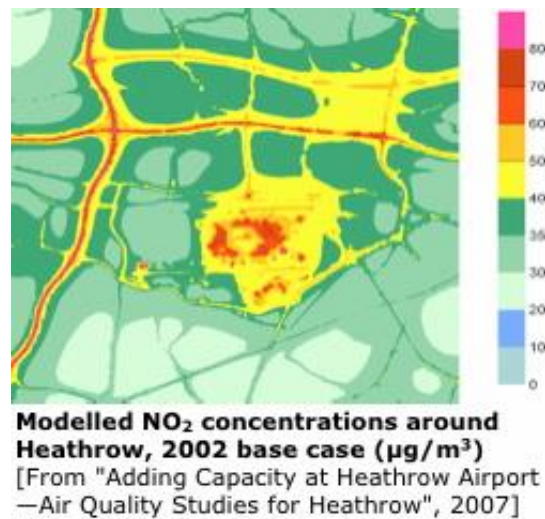
Choosing quieter aircraft may be reducing ambient air noise, but technological improvements could be more expensive than some specific site based solutions. A GIS helps to develop site-specific solutions. Potential noises can be prevented, by using results of

simulating noise pollution. For example, the noise problem can be solved with land use management. Sadr (2017) predict IKIA airport noise by using GIS. Also, Buitenschot Park Project is a good example for reducing noise problem by managing land use (http-1, 2016). These management processes can be done by GIS-based models.

Within a GIS, based airport wildlife management program strives to reduce the risk of bird strikes. In Greece, Siopis et al., (2015), show the importance of site selection and land use management for reducing risks. The other example project is Aalborg Airport. Bird Strikes down by 50% in Aalborg Airport by using Copernicus Sentinel satellites and spatial analysis techniques (http-2, 2018).

Air quality management of airports can be done by GIS techniques. GIS can take into account the whole range of relevant emission sources: aircraft traffic, auxiliary power units, ground support equipment, road traffic, industrial, commercial, domestic and other less well-defined sources. For example, in 2002 London Heathrow airport's air quality management done by GIS-based model ADMS-Airport which is developed by Cambridge Environmental Research Consultants (CERC, 2002). By using this model, air quality current situation and future scenarios can do, and by using this model output adding capacity, processes can be managed.

**Figure 1: ADMS-Airport**



**Source: CERC, 2002**

In addition to the environmental impacts, by using GIS, we can answer these questions,

- where is the best suitable area for the airport?
- How many people affected by the impacts of the airport?

- When can new airport opening, which sectors affected negatively or how many people find a job?
- Where can we find the cheapest raw material and which way has the less carbon footprint? Etc.

In summary, In line with the goals of sustainable aviation and airport, benefits of GIS for sustainable aviation (ESRI, 2013);

- Reduced Emissions
- Provide the ability to track assets, conduct real-time analysis, and produce what-if scenarios on live or recorded aeronautical information feeds.
- Promote Sustainable Growth
- Sharing the use of the technology ensures that the correct data is used throughout the organisation and that resources are shared for more viable growth.

## **5. CONCLUSION**

Using GIS in aviation, especially in airports, allows airports to collaborate more effectively and efficiently on airport planning, design, operations, and maintenance decisions.

In the future, using GIS at the airport provides (Coffman Associates, 2016);

- With digital management of airport information, airports will be both efficient and sustainable.
- Coupling with advances in web-based applications gives the airport access to its data anywhere there is an internet connection. This means that an airport manager can answer a critical question
- Technology integration is also making GIS more accessible, as people can use alternate devices (such as smartphones and tablets) to run the web-based applications. It will reduce the costs of traditional GIS systems.
- Over the long-term, with the improved data management GIS will provide faster, easier access to information. GIS technology will eliminate the need for paper-based management.

To sum up, by using GIS in airports, it will be easier to achieve sustainable development goals.

## REFERENCES

- Cambridge Environmental Research Consultants (CERC), 2002. ADMS-Airpor, Retrieved from: <https://www.cerc.co.uk/environmental-software/ADMS-Airport-model.html> (23.07.2018).
- Coffman Associates, 2016. *Airports and GIS*, Retrieved from <http://coffmanassociates.com/airports-and-gis-your-questions-answered/> (03.05.2018).
- Environmental Systems Research Institute (ESRI), 2007. *A Framework for Understanding, Managing, and Improving Our World, GIS—The Geographic Approach*, Retrieved from <http://www.esri.com/news/arcnews/fall07/articles/gis-the-geographic-approach.html> (15.05.2018).
- Environmental Systems Research Institute (ESRI), 2013. *Aeronautical-GIS Best Practices*, Retrieved from <https://www.esri.com/library/bestpractices/aeronautical.pdf> (02.07.2018).
- Environmental Systems Research Institute (ESRI), 2012. *Esri, Aeronautical Solution*, Retrieved from <http://www.esri.com/library/fliers/pdfs/esri-aeronautical-solution.pdf> (10.07.2018).
- Environmental Systems Research Institute (ESRI), 2013. *GIS Solutions for Airports and Aviation*, Retrieved June 5, 2018, from <http://esribulgaria.com/wp-content/uploads/2013/07/airports-aviation.pdf>
- http-1, 2016. *Buitenschot Park H+N+S Landscape Architects*, Retrieved from <http://www.landezine.com/index.php/2016/07/buitenschot-park-by-hns-landscape-architects/> (11.07.2018).
- http-2, 2018. *Bird Strikes down by 50% in Aalborg Airport*, Retrieved from <https://ascendxyz.com/2018/05/30/bird-strikes-down-by-50-in-aalborg-airport/> (18.07.2018).
- Lee, D. S.; Fahey, D.W.; Forster, P.M.; Newton, P. J.; Wit, R. C. N.; Lim, L.N.; Owen, B. & Sausen, R. (2009). *Aviation and global climate change in the 21st century*, Journal of Atmospheric Environment, 43, pp. 3520-3537.
- Sadr, M.K. (2017). Prediction of Airport Noise Using CadnaA Model and GIS: Case Study of IKIA Airport, Journal of ECOPERSIA, Article 2, Volume 5, Issue 4, Autumn 2017, Page 1933-1940.
- The International Civil Aviation Organization (ICAO) (2017). *Aviation Benefits 2017*, Retrieved from: <https://www.icao.int/sustainability/Documents/AVIATION-BENEFITS-2017-web.pdf> (18.05.2018).

The International Civil Aviation Organization (ICAO) (2016). *The ICAO Environmental Report* Retrieved from <https://www.icao.int/environmental-protection/Pages/ENV2016.aspx> (22.07.2018).

Proceedings of the 14th International Conference on Environmental Science and Technology

Siopis, M.; Papakonstantinou, D. & Papadopoulou, M.P. (2015). Bird Coalition Preventer: A GIS Tool for Estimating the Impact Assessment of Land Use, to Airport Wildlife Management, 14th International Conference On Environmental Science and Technology.

Upham, P., Maughan, J., Raper, D., & Thomas, C. (Eds.). (2003). *Towards sustainable aviation*, Sterling, VA: Earthscan Publications.

Walker S., Cook, M. (2009). *The Contested Concept of Sustainable Aviation*, *Journal of Sustainable Development*, 17, 378–390.



## Comparison of Environmental Performance and Development Levels of EU Countries

Harun Hurma<sup>1</sup>, Gökhan Unakitan<sup>2</sup>, Yasemin Oraman<sup>3</sup>

### Abstract

Although EU countries are mostly developed countries, there are also developing member and candidate countries in the region. In the past, the approach of providing economic growth at any cost has left its place to the concept of sustainable development by considering natural resources. A sustainable development approach representing a dynamic process represents a development tendency that will "open up the economic development process by preserving human health and natural equilibrium, providing rational orientation and balanced use of natural resources, leaving a worn and healthy environment for future generations".

The Environmental Performance Index (EPI) is an index that compares environmental health and ecosystem viability to 24 selected performance indicators from 180 countries. The result of economic growth and prosperity increases the relationship between rising environmental health and ecosystem viability threatened by industry and urbanization. The indicators used to allow comparison within the context of the environmental policy that countries make.

In this study, the comparison was made among the level of economic development of the EU countries (total 34 countries including member and candidate countries) according to their environmental performance, which is an important indicator of sustainability. In comparison, the environmental performance index (EPI) and per capita GDP were used. France and Denmark have the highest environmental performance. Also, Luxembourg and Ireland have the highest GDP. While Greece, Portugal, Latvia, Hungary, Poland and other countries have close regarding GDP, Greece stands out with its high environmental performance. A similar situation is seen between Belgium, Finland, England and France. France's environmental performance is significantly higher than others.

**Keywords:** Environmental Performance Index, GDP, EU, Level of Development

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## **1. INTRODUCTION**

Growth rates of the countries are focused on GDP after the Second World War. GDP per capita has become important in the 1960s and 1970s. The concept of sustainability was introduced in the 1980s.

The concept of sustainable development reached its current definition with the Brundtland Commission report published in 1987. We can define sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations General Assembly, 1987).

However, the main facts of sustainable development were explained by the Rio Summit in 1992 (UNDS, 1992; Kolukisa ve Uğurlu, 2006). The controversy for sustainable development has been about economic, environmental and social sustainability in generally (Holmberg, 1992; Reed, 1997). Countries should also give importance to the development of social life and the protection of the environment while trying to ensure their economic development.

Explaining the current situation of a country is very important regarding policy making, implementation and success. Measurement and monitoring of the results obtained from the implemented policies is another important topic. Countries can be compared to each other according to various criteria and can see their situation and make projections for the future.

Although there are many indicators to compare and measure the economic success of countries, the total GDP and GDP per capita are the most widely used indicators of the past. Social success is compared by HDI (Human development index) which is starting to be calculated in the 90s. The most commonly used indicators in the environmental sustainability are the Environmental Performance Index (EPI), the Sustainable Development Goals Index (SDGI), and the Climate Change Performance Index (CCPI).

Today, the European Union (EU) is a large community covering 34 countries, including 28 member states, 5 candidate countries and 1 potential candidate country. While these countries came together in the past within the framework of economic interests, it has now become a community that takes decisions and implements many issues concerning the environment and society.

In this study, we compared the EU countries regarding economic development and environmental sustainability. While producing GDP per capita, it is examined whether the countries are sensitive to the environment. For this purpose, the countries were first evaluated according to EPI, and then this score was compared with GDP per capita and HDI.

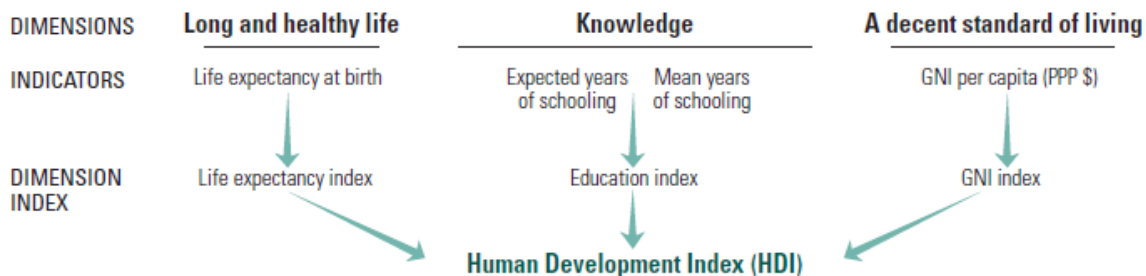
## 2. ECONOMIC DEVELOPMENT AND ENVIRONMENTAL INDICATORS

Economic development is a concept that reflects social and economic progress. There are many macroeconomic and socio-cultural indicators in the measurement and comparison of economic development of countries (Worldbank, 2018). Gross domestic product (GDP) and related calculations are the main indicators.

Gross domestic product (GDP) is the main macroeconomic sum of national accounting, which represents the outcome of production activity in a country. In simple terms, GDP represents the value of all the final goods and services produced within the borders of a country, usually within one year at market prices. (Inan, 2016). GDP per capita is obtained by dividing GDP by population (UN, 2018). GDP per capita is called GDP per capita (PPP) if it is calculated according to purchasing power parity (IMF, 2018).

The Human Development Index (HDI) was developed in the early 1990s when GDP was found to be unable to fully express a country's economic development. The HDI (Human Development Index) was created to emphasise that people and their capabilities should be the criteria to be considered in order to assess the development of a country. HDI can also be used to national policy choices. This index is the measure of a long and healthy life, access to information and the appropriate standard of living, which are the key dimensions of human development (Figure 1) (UNDP, 2018).

**Figure 1.** Human Development Index (HDI) among



**Source:** <http://hdr.undp.org/en/content/human-development-index-hdi>

In order to explain the sustainable development process realistically, it is seen that some national or international indices are being developed along with indicators. However, due to countries' specific conditions and data generation problems, the index creation process becomes difficult.

The Environmental Performance Index (EPI) has been developed through the joint work of Columbia and Yale universities and the European Commission and the World Economic Forum. This index compares the environmental performance of the Millennium Development Goals report and the country's performance about the environment. EPI is obtained by combining 24 indicators with different weights in two categories: ecosystem

viability and environmental health (EPI, 2018). The categories and indicators related to EPI are given in Table 1.

**Table 1.** Policy Objective and Indicators

Policy Objective	Weight	Issue Category	Weight	Indicator	Weight
Environmental Health	40%	Air Quality	65%	Household Solid Fuels	40%
				PM <sub>2.5</sub> Exposure	30%
				PM <sub>2.5</sub> Exceedance	30%
		Water & Sanitation	30%	Drinking Water	50%
				Sanitation	50%
		Heavy Metals	5%	Lead Exposure	100%
Ecosystem Vitality	60%	Biodiversity & Habitat	25%	Marine Protected Areas	20%
				Biome Protection (National)	20%
				Biome Protection (Global)	20%
				Species Protection Index	20%
				Representativeness Index	10%
				Species Habitat Index	10%
				Forests	10%
		Fisheries	10%	Fish Stock Status	50%
				Regional Marine Trophic Index	50%
		Climate & Energy	30%	CO <sub>2</sub> Emissions – Total	50%
				CO <sub>2</sub> Emissions – Power	20%
				Methane Emissions	20%
				N <sub>2</sub> O Emissions	5%
				Black Carbon Emissions	5%
		Air Pollution	10%	SO <sub>2</sub> Emissions	50%
				NO <sub>x</sub> Emissions	50%
		Water Resources	10%	Wastewater Treatment	100%
		Agriculture	5%	Sustainable Nitrogen Management	100%

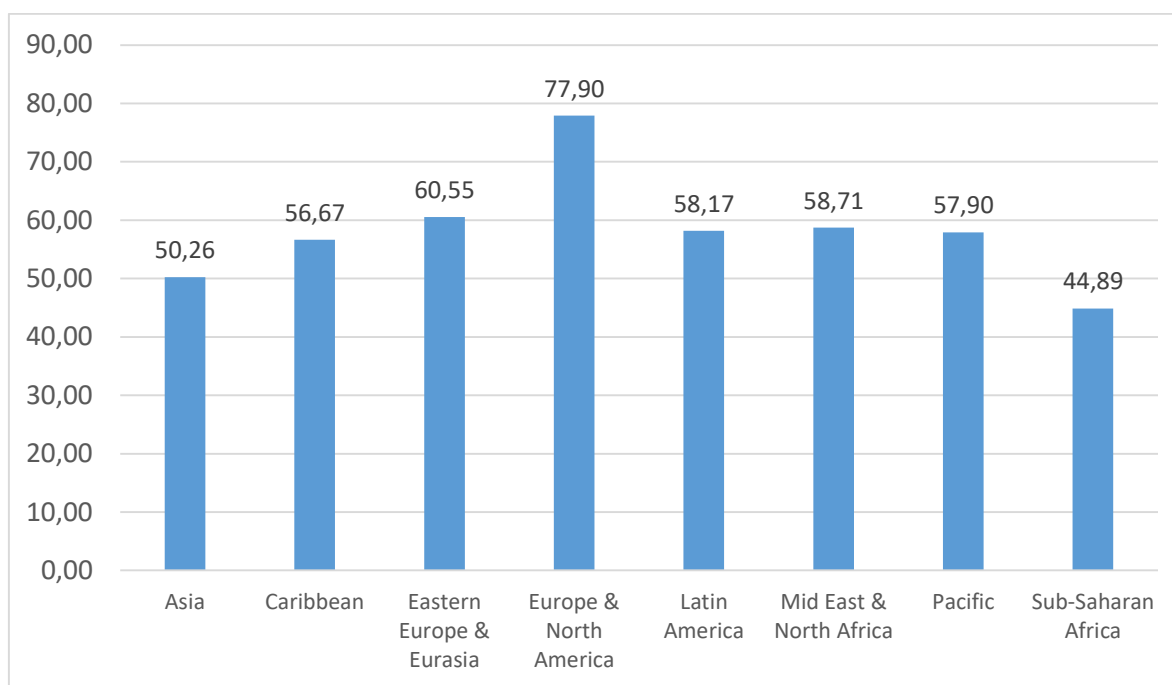
**Source:** EPI, 2018, <https://epi.envirocenter.yale.edu/downloads/epi2018policymakerssummaryv01.pdf>

The EPI has long been based on two policy objectives: Environmental Health, which measures threats to human health, and Ecosystem Vitality, which measures natural resources and ecosystem services. These objectives reflect the dominant policy domains within which policymakers and their constituents generally deal with environmental problems. Environmental health includes indicators of environmental degradation of human health (represented by childhood mortality rates), indoor and outdoor air pollution that directly affect humans, and access to water and sanitation services. Environmental vitality tracks the status of the ecosystem itself and the ways humans manage natural resources through indicators of climate change, agriculture, fisheries, forests, biodiversity and habitat, water resources and the effects of air quality on ecosystems (Fredericks, 2013).

### 3. COMPARISON of EU COUNTRIES by ENVIRONMENTAL and ECONOMIC INDICATORS

EPI scores are also indicative of environmental performance over regions around the world. When EPI score averages are taken according to regions, their success is considered. Figure 2 shows the average EPI scores by regions.

**Figure 2.** EPI Scores (average) by Regions



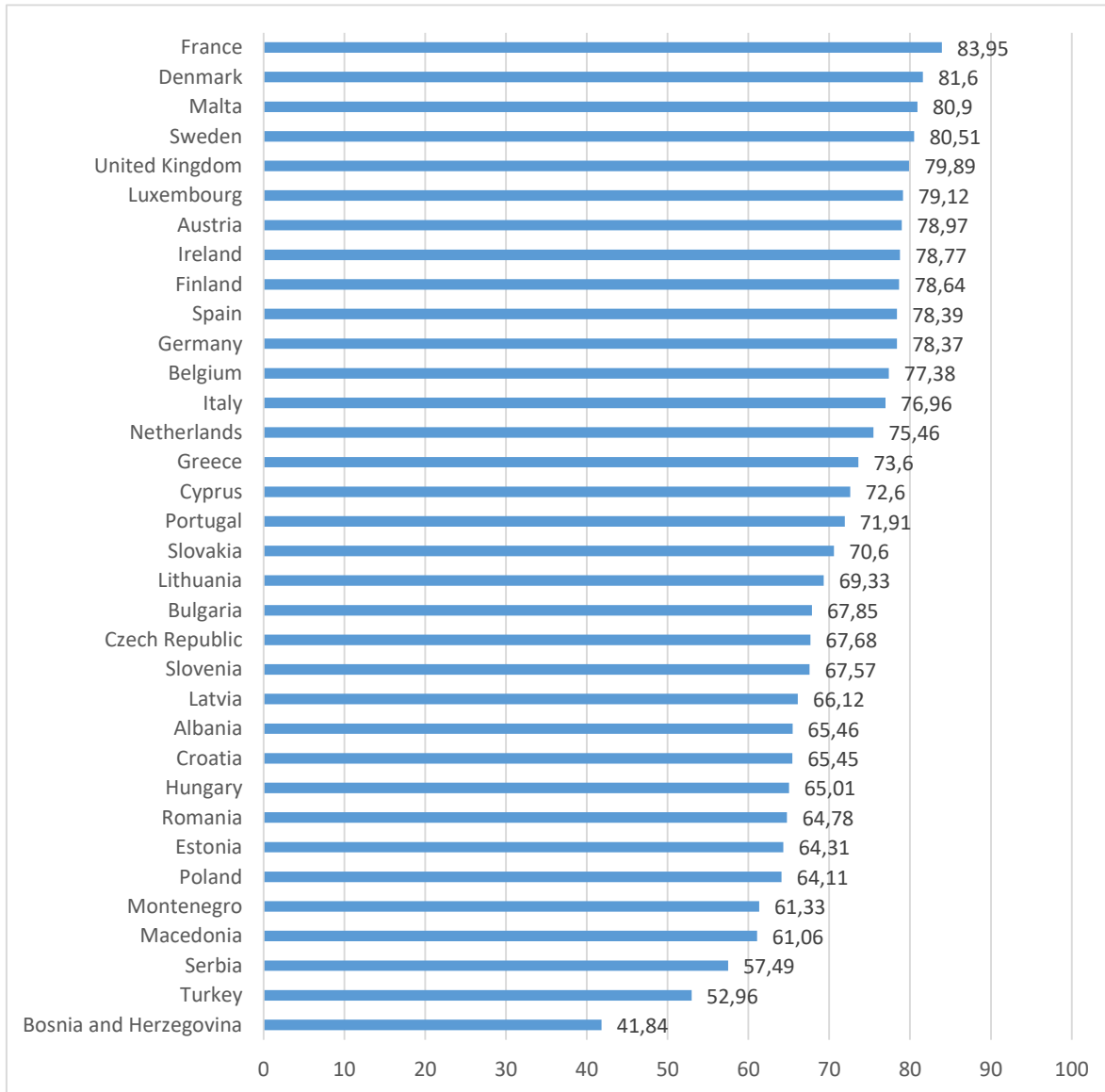
**Source:** EPI, 2018

Europe and North America have a higher score than any other region's EPI scores. This is followed by Eastern Europe & Eurasia. The regions with the lowest EPI score are Sub-Saharan Africa and Asia.

Individual country ranks and EPI scores are shown in Figure 3. At the top of the rankings, France leads the EU in the 2018 EPI. France's top ranking reflects strong performance across most issues. Denmark (81.60), Malta (80.9), Sweden (80.51) and UK (79.89) round out the top five EU countries in the 2018 EPI.

The five countries with the lowest EPI score Bosnia and Herzegovina (41.84), Turkey (52.96), Serbia (57.49), Macedonia (61.06) and Poland (61.33) (Figure 3).

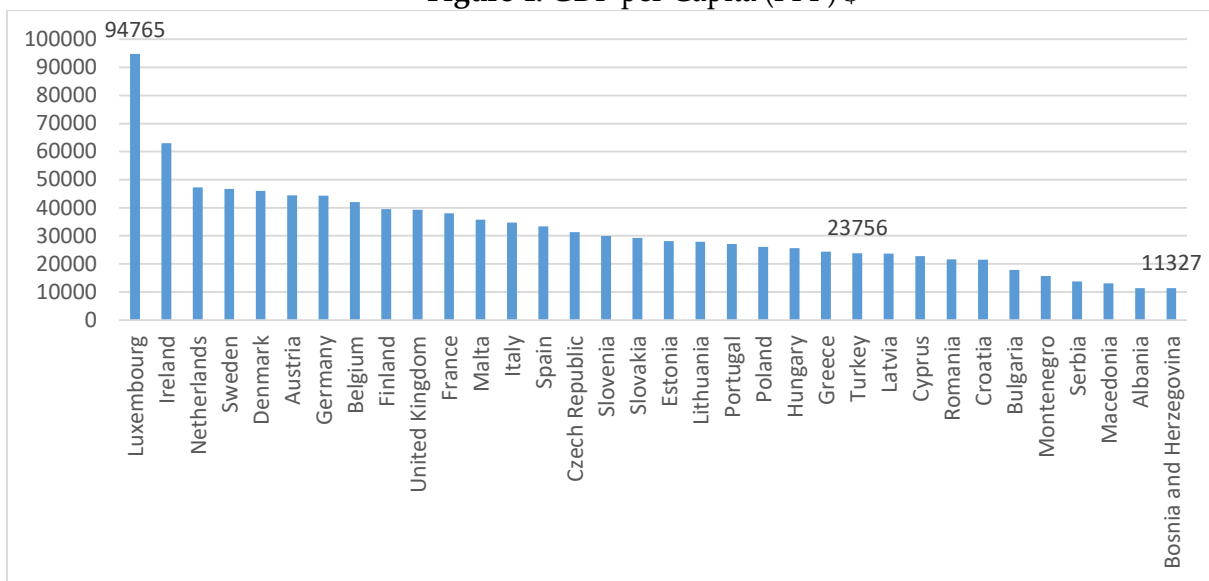
**Figure 3. EPI Scores by EU Countries**



Source: EPI, 2018

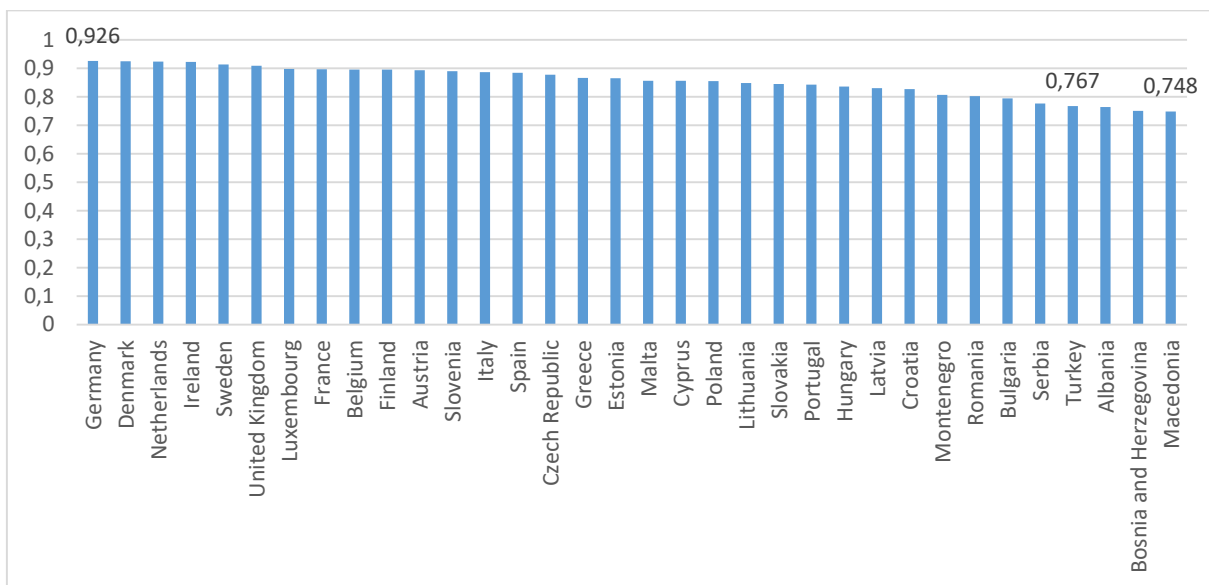
Before comparing the environmental performance of EU countries, it is useful to examine the economic development levels of these countries. The country with the lowest GDP of \$ 11327 in Bosnia and Herzegovina (Figure 4).

**Figure 4. GDP per Capita (PPP) \$**



Source: EPI, 2018

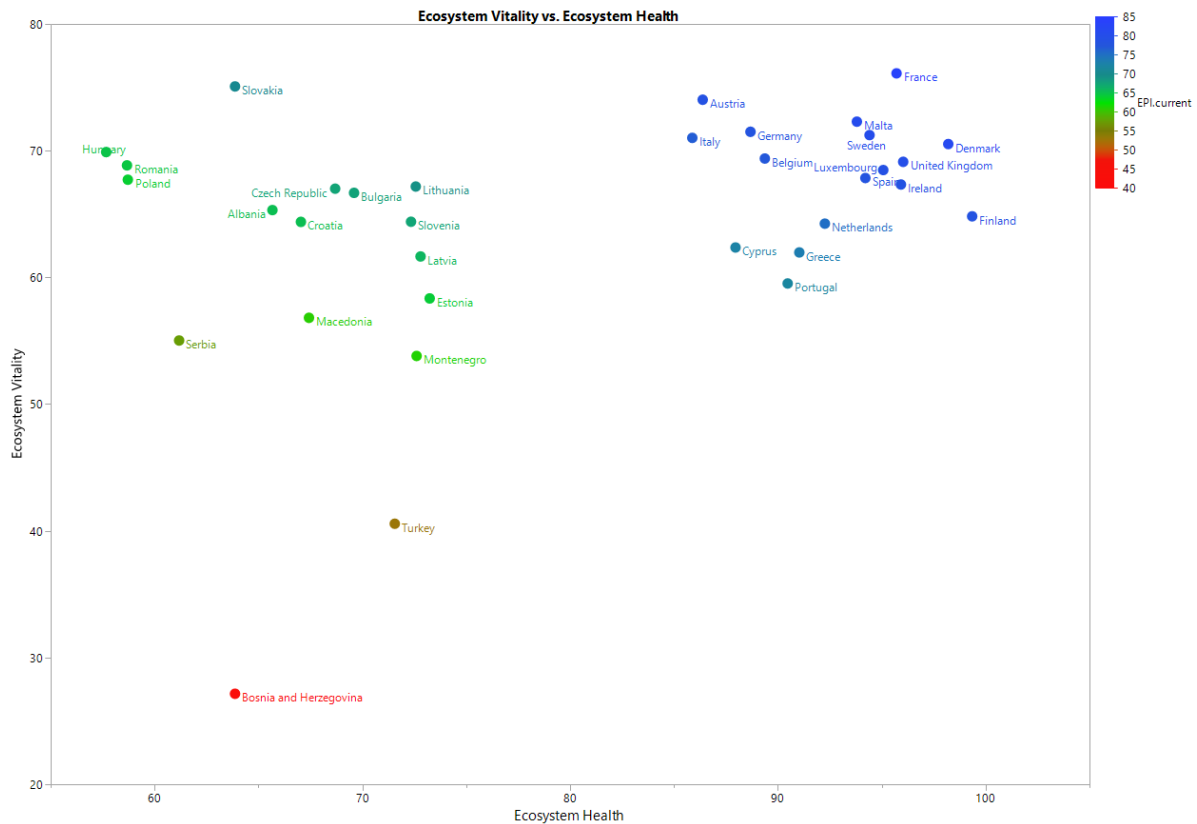
**Figure 5. Human Development Index (HDI)**



Source: <http://hdr.undp.org/en/data>

According to the human development index, the top three are in Germany (0,926), Denmark (0,925), and the Netherlands (0,924) (Figure 5). Macedonia, Bosnia and Herzegovina, Albania and Turkey are the countries with the lowest HDI.

**Figure 6. Ecosystem Vitality Vs Ecosystem Health**



Another enduring finding from the EPI is that the policy objectives constitute distinct dimensions of sustainability. Figure 6, illustrates the relationship between sub-scores for Environmental Health and Ecosystem Vitality in the 2018 EPI. As can be seen from the scatter plot of EPI scores, countries with high EPI scores are also good in the ecosystem vitality and ecosystem health subcategories.

While positively correlated, there is substantial variation in both dimensions. The figure suggests tension, as economic growth creates resources to invest in environmental protection while at the same time adds to pollution burdens and habitat stress.



**Figure 7. EPI vs HDI**



European countries lead the EPI's top performers, occupying 17 the top 20 positions. Many European and North American nations are members of the OECD. All are highly ranked on the United Nation's Human Development Index, a measure of the quality of life within a country. However, national trends and statistics often mask inequities at the sub-national level.

As in previous reports and studies, the 2018 EPI shows a positive correlation with country wealth, as measured by per capita GDP. Figure 8, illustrates the relationship between EPI scores and GDP. One of the consistent lessons of the EPI is that achieving sustainability goals requires the material prosperity to invest in the infrastructure necessary to protect human health and ecosystems (EPI, 2018).

**Figure 8. EPI vs GDP**



#### 4. CONCLUSION

In a world where there are unplanned industrialisation and urbanisation, it is very important to protect the drinking water, to manage the wastewater and to build the facilities to reduce pollution. Increasing pressure on natural resources through industrialisation imposes external costs on society.

Changes between environmental performance and country welfare cannot be accurately measured. EPI metrics make a significant contribution to achieving Sustainable Development Goals. Environmental measurements and indicators are an important tool for decision makers. EPI offers better monitoring of some environmental indicators by collecting healthy data in certain areas.

Environmental indices have many advantages and disadvantages (GEMI, 1998).

Advantages:

- Provides easily understandable results for external stakeholders and managers;
- Identify areas where development and correction are needed;
- Provides important data for comparison

#### Disadvantages:

- Developing, collecting and interpreting the data may be difficult;
- Subjective judgments about the data may cause the results to be biased;
- The taking of timely corrective action may be hampered.
- Users can focus on index numbers rather than actual environmental performance.

Data are still insufficient in some areas of high concern, preventing EPI from including measurements of issues such as freshwater quality, species loss, climate adaptation, and waste management when calculating each country's performance. Better data collection is needed to manage these resources for human and ecosystem health.

Actions that improve environmental performance often take place at the sub-national level. In large and diverse countries such as the United States, China, and Russia, performance on EPI indicators can vary regionally. As an example, due to differences in soil and unevenly distributed economic activity, the nitrogen use efficiency within each country will vary widely from region to region.

#### REFERENCES

- EPI (2018). Environmental Performance Index, <https://epi.envirocenter.yale.edu/about-epi>
- Fredericks, S.E. (2013). *Measuring and Evaluating Sustainability: Ethics in Sustainability Indexes*, Routledge.
- Global Environmental Management Initiative, (1998) *Measuring Environmental Performance: A Primer and Survey of Metrics in Use*, 818 Connecticut Ave., N.W. Second Floor, Washington, D.C. 2000
- Holmberg, J., 1992, *Making Development Sustainable, Redefining Institutions Policy and Economics*,
- IMF (2018) International Monetary Fund, <http://www.imf.org/external/datamapper/datasets/WEO/1>
- Kolukısa, E.A. & Uğurlu, N. (2006). The Importance of Sustainable Development in the Field of Education, *Globus*, 37(31).
- Reed, D. (1997). *Structural Adjustment, the Environment and Sustainable Development*, UN, (2018) United Nations [http://www.un.org/esa/sustdev/natlinfo/indicators/methodology\\_sheets/econ\\_development/gdp\\_percapita.pdf](http://www.un.org/esa/sustdev/natlinfo/indicators/methodology_sheets/econ_development/gdp_percapita.pdf)
- UNDP (2018). United Nations Development Programs, <http://hdr.undp.org/en/content/human-development-index-hdi>

*Hurma, H., Unakitan, G. & Oraman, Y. (2018). Comparison of Environmental Performance and Development Levels of EU Countries. International Symposium on Business and Economics Montenegro, 5th-8th September 2018*

United Nations General Assembly (1987). Report of the world commission on environment and development: Our common future. Oslo, Norway: United Nations General Assembly, Development and International Co-operation: Environment.

UNSD, 1992, Agenda21, Rio

Worldbank (2018) <https://data.worldbank.org/products/wdi>, World Development Indicators.

## **The Classification of Comparative Economic Systems – New Approaches to New Realities**

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### **Abstract**

The paper analyses the necessity of introducing new classifications of economic systems. These classifications should incorporate changes that have occurred after the downfall of the centrally planned economies. The classical divide between socialist centrally planned, market socialism and free-market capitalism have only basic instructional value at undergraduate levels. The varieties of capitalism approach with the division between Anglo-Saxon, Continental European, and Asian models of capitalism, although valuable seem not to give enough analytical depth. The older criteria for evaluation such as economic growth rates, efficiency, stability, income distribution and openness are useful but limited. New classifications are needed, which although normative, should reflect broadly defined characteristics of a “good society” in order to derive comparisons. These, as proposed recently by Balcerowicz (2014), should include dimensions of economic freedom, the rule of law, civil liberties and human rights, quality of life, equality and others. We think that extra dimensions should be added. The paper uses this new approach to classify certain countries and their economic systems.

This new classification does explicitly deal with some new phenomena that have emerged after the 2008 financial crisis. These phenomena correspond to varieties of “political capitalism” as described by Max Weber. They consist of forms of capitalism described as *crony capitalism* and *state capitalism*. The paper attempts to delineate the two and provide classifications on these lines. The paper incorporates some of the findings of previous research of these phenomena into a new classification of economic systems. The goal of the paper is to provide a strong theoretically based classification that could serve as a methodological matrix for country comparisons and empirical research.

**Keywords:** Comparative economic systems, State capitalism, Crony capitalism, State capture.

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## **1. INTRODUCTION**

Comparative economic systems have been with us since the theoretical formulation of the possibilities of socialism. With the establishment of central planning (in the USSR and other communist states) and later market socialism (in Yugoslavia), theoretical and empirical studies in the field of comparative systems significantly expanded. The study of comparative economic systems became relevant not just in academia and economics degree courses, but also in helping define various government policies and potential system reforms. Although it took many complex forms, the basic dividing line between economic systems as they were studied then, was defined by the comparison of capitalism to various forms of socialism. The fall of communism in Eastern Europe followed by the demise of the Soviet Union has changed the study of comparative economic systems profoundly.

## **2. COMPARATIVE ECONOMIC SYSTEMS – TRANSITION AND VARIETY**

The immediate new interest after the fall of communism in Eastern Europe was the process of transition to market economies. After the death of communism in Europe and the transition to a market economy, all that was left was capitalism.

However, well before the fall of communism, the field of comparative economic systems had become more varied in the sense that it recognised the vast differences between different types of capitalism. A broad distinction between the Anglo-Saxon model of capitalism, the European or Continental model and the Asian model of capitalism has been widely present over the years (Gregory and Stuart, 2014). The major distinctions between the three were identified through their different forms of corporate finance, corporate ownership and control, social security and welfare models, labour market organisation and other institutional arrangements.

The classic comparison of economic systems also relied on certain measures of success that could be used to assess the advantages or disadvantages of the systems being compared using the “success criteria”. These criteria came into being through a broad consensus in the field (Eckstein, 1973). The criteria consisted of economic growth (overall and per capita), stability as a measure of the system’s ability to absorb shocks (employment and price stability), equality as measured by income distribution, sustainability as pertaining to keeping the fundamentals of the system through reforms and challenges, efficiency as measured by productivity and productivity growth, openness as a measure of integration into the world economy etc. However, although this was an effort to bring in neutral free criteria as a scientific goal, it is obvious that the criteria were really normative in character. This then made the success indicators tentative, but useful, nevertheless. Since the beginning of the post-communist period, there has been a growing literature and interest in institutions. The most known popularisation of this type of research came from Acemoglu and Robinson (2012). Other prominent authors have also tried to redefine the fields of comparative

systems regarding institutional frontiers, institutional clusters and the new comparative political economy (Djankov et al. 2003). The cluster approach is worth pursuing as shown by Pryor (2004) as it gives possible subdivisions within certain models of developed capitalism.

On the other hand, the fall of communism in Europe has fundamentally affected the world economy. The new experiences of the transition and the distance covered by the countries that have undertaken this process show great variation in reaching a full-fledged market economy of the developed countries. This very fact justifies the search for new classifications of economic systems. A further reason is a globalisation, the rise of emerging markets and the consequences of the financial crisis of 2008. The question arises as to what criteria, old or new, should we use to assess economic systems. Here is where we see the need for a new approach.

### **3. A NEW CLASSIFICATION – NORMATIVE AND ANALYTICAL**

When considering new classifications of economic systems, we find the recent work by Balcerowicz (2014), inspiring and worth pursuing. The focus is on judging the success of economic systems through the normative prism that arises from the answer to the following question: what constitutes a good life? The answer is Western biased in the sense that it assumes that the values of the West have become universally accepted. These values include human rights, political freedom, economic freedom and a certain level of social welfare and social rights derived from this. The first three are all correlated to the rule of law, while the fourth one has to do with various types of institutional solidarity. The classification by these criteria is given in Table 1.

The question of whether or not democracy provides better economic results has not been settled and probably will not be shortly. In this regard, two themes seem to be important. One is related to the major traits of the economic system and how they relate to the values associated with democracy (human rights, political and economic freedom). In other words, do they enhance them or do they downgrade them?

At this point, let us look at the major characteristics of economic systems as related to the criteria that we have put forth. Here, however, we begin to run into problems in the sense that the transition has been far from smooth, that the emulated institutions of the West and the free market economy along with subsequent economic performance, did not generally live up to the original expectations of the citizen. Furthermore, privatisation, stabilisation, democratisation and institutional change, the standard conditions for the completion of the transition process were seen as flawed and as such leading to undesired results of rising uncertainty, inequality and deteriorating social living standards. What, however, came out as a result was also the rise of crony capitalism a term that requires a closer definition?

**Table 1** The Balcerowicz Classification of Economic Systems.

Table 1.	Democracy	Human rights	Rule of Law	Economic freedoms	Public social spending	Examples -countries
<b>Socialism</b>	Undemocratic	Almost non-existent	Very low level	None – command economy	High	North Korea Cuba
<b>Quasi - socialism</b>	Undemocratic	Almost non-existent	Very low level	Dominatio n of state enterprises	High	Belarus Venezuela
<b>Free market capitalism</b>	Usually democratic	Wide	High level	Wide	Medium or low	Hong Kong Switz. Ireland
<b>Crony capitalism</b>	Usually undemocratic	Limited	Low level	Limited-unequal protection of property rights	Undefined	Russia Ukraine
<b>Overregulated capitalism</b>	Democratic or undemocratic	Mostly wide	Limited due to frequent arbitration	<b>Limited-over-regulation and fiscal instability</b>	High	Italy France
<b>Measurement</b>	Political freedom  Freedom House	Human rights  Freedom House	Rule of Law  (World Bank)	Fraser Institute	Various sources	

Along with this, the emerging markets had been growing under a system that Bremmer (2010) has described as state capitalism. We feel that over the year's state capitalism has been used to denote many different phenomena and that the latest manifestation because of its distinctive features should be renamed as *the new state capitalism*.



#### **4. A NEW CLASSIFICATION – NEW STATE CAPITALISM, CRONY CAPITALISM AND STATE CAPTURE**

The new state capitalism is defined by Bremmer, as a system in which the political elite does not act in the pursuit of maximising economic prosperity, but uses economic resources to maximise its power and to perpetuate its hold on power. It uses sovereign wealth funds, subsidies for national champions and controlling stakes in state-owned enterprises or publicly traded corporations to achieve this goal. In this system, the state has a dominant role in controlling economic resources and employment. In essence, it is a type of new mercantilism with the state helping its firms penetrate foreign markets not just through subsidies and soft loans, but also using political means where it can. The obvious countries that fall into this category are the BRICS (Brazil, Russia, India, China and South Africa) as well as Mexico, Indonesia and Malaysia. The sectors in which the state overwhelmingly dominates in these countries are gas and oil, petrochemicals, shipbuilding, aviation industry, metals, telecommunications, mining and a few others.

The heavy involvement of the state brings back, a long-neglected categorisation of Max Weber, who defined aberrations from the ideal type of capitalist profits. These were: a) predatory b) obtained through domination and force and c) stemming from closeness and unusual transactions with political authority (Weber, 1978: 164-165). In other words, aside of ideal type capitalism and capitalism based on trade, Weber identified “political capitalism” as a separate category with the types of profits associated with it listed above. With the expansion of new state capitalism and the ever more use of the term crony capitalism Weber’s concept of “political capitalism” gains in relevance. At first glance, these two categories are completely distinct. New state capitalism, as described by Bremmer is a system in which the political elite rules through sovereign funds, state-owned enterprises and the like. Crony capitalism, on the other hand, is usually loosely defined as a situation in which collusion between business interests and political power leads to special privileges and rents which would otherwise not exist. This latter type of collusion is usually associated with corruption. The introduction of various types of institutional arrangements that put businesses in privileged positions that have no economic justification is usually accompanied by some type of quid pro quo for the governing political elites. There have been efforts to measure the extent of the existence of crony capitalism by composing a crony capitalism index and using it to rank countries. This was done by the London Economist (May 7, 2016) which has chosen the presence of certain industries that are susceptible to monopoly and require licensing or highly depend on government regulation. The wealth of billionaires who are involved in these sectors is calculated and put about GDP of the country. A higher ratio of billionaire wealth to GDP can indicate a higher presence of crony capitalism. Perhaps not surprisingly the rankings of the countries using this index show that the BRICS are in the top 15 countries of the list calculated for 2016. Also, it comes as no surprise that the developing countries, as opposed to the developed countries, have higher

scores. What is interesting, however, is that the UK, US, France Japan and South Korea are ranked between the 14th and 20th place. Also, the billionaire wealth ratio in the crony sectors is lower than that ratio in the non-crony sectors in the more developed countries. The very need to calculate the crony capitalism index shows that this is a serious phenomenon. The bottom line is that this type of analysis needs to be supplemented by empirical fieldwork.

The new state capitalism that we described previously, however, open up a different but closely related question of the relationship of that type of capitalism to crony capitalism. In other words, is the concept of crony capitalism enough to describe largely free market economies and new state capitalist economies in the same category with only variance in degree? The obvious candidate for making the demarcation line is the concept of state capture which is often used as synonymous with crony capitalism. We believe that this should not be so. We believe that there should be a clear distinction. Our working definition would be that crony capitalism should be observed as a part of rent-seeking that is gained through lobbying, influence, corruption or other means, but is limited to certain sectors which then gain one-off, midterm or longer-term advantages through various mostly legal means (tax breaks, subsidies, licenses, regulation etc.). Of course, in crony capitalism, illegal means can also lead to rents (inside information, influencing conditions of tenders etc.). The major difference between crony capitalism and state capture, however, do not lie in the spheres of legality or illegality of certain actions, but the part as opposed to the all-encompassing character of state capture. With all the differences in definitions in our view, the concept of state capture should reflect a situation in which political power is systematically used on a large scale too, more or less, permanently abuse institutions in order to provide advantages and rents to the business elite which is subservient to the political class. The importance of this difference cannot be exaggerated. It should not come as a surprise, that South Africa has recently been strongly identified with state capture (Swilling, 201, Dassah, 2018). The other candidates are certainly some of the other emerging market countries (Turkey, Mexico, Brazil etc.).

The one that can most certainly be categorised in this way is Russia and most of the former Soviet republics of Central Asia. In these countries, one can hardly distinguish the lines between big business and the political class, as they tend to overlap to such a large extent. The other candidates to be put in this category are countries that have undergone the process of transition in which the process itself was used to circumvent the new rules and abuse the new institutions on a scale large enough as to deserve being labelled state capture. It is no accident that one of the most thorough and influential works on state capture comes from (Ganev, 2007) who analysed the transition process in Bulgaria. Furthermore, after the first ten years of transition, the World Bank, recognising that state capture is a major issue attempted to measure the extent of this phenomena in the transition countries (Hellman and Kaufmann, 2000). At this point, we need to stress that one should

beware of mixing corruption with state capture, although the two can be closely related. Further work was done later, but unfortunately, tracking state capture in a quantifiable way requires a unified methodology and substantial funding (Kaufman., 2003). One of the important traits of state capture that makes it especially difficult to eradicate is that once it surpasses a certain point, it tends to become self-reinforcing.

Combining the above-cited research and the composite indices of state capture used, the countries were divided into those with high and medium levels of state capture. The results were in line with expectations concerning the countries of the former Soviet Union. Of the European transition countries in the sample, the ones that were in the high category were: Croatia, Slovakia, Romania, Bulgaria and Moldova, with the rest classified as medium. More importantly, combining strong economic reform with high civil liberties seemed to show that these countries clustered together at low levels of state capture, these being then, Slovenia, Poland, Hungary, Czech Republic, Estonia and Lithuania. One should remember the political landscape of the time in order to appreciate the broad accuracy of these findings.

## **5. CONCLUSION**

What we propose is a combination of the criteria used in our first table, with the analysis of crony capitalism and elements of state capture, in order to come up with a classification that would include elements of both of these approaches. The results of this combination are presented in Table 2. What the table shows is the essence of a new approach that shows the ideal-type constructs of economic systems in their relation to the new criteria of good governance along with their empirical attributes concerning crony capitalism and state capture. This type of classification sheds a different light on the existing socioeconomic systems. It needs more empirically updated research.

<b>Table 2.</b>	<b>Democracy Human Rights</b>	<b>Rule of Law</b>	<b>Economic freedoms</b>	<b>Crony capitalism</b>	<b>State capture</b>	<b>Examples - countries</b>
<b>Market Socialism</b>	Undemocratic Almost non-existent	Very low level	Medium	High	None Communist Party rules	China
<b>State Capitalism</b>	Undemocratic or Flawed democracy	Low level	Limited	High	Yes Examples Below: Russia, Ukraine, C. Asia S. Africa, OPEC. Brazil Mexico	
Defining traits: – state enterprises, sovereign funds, subsidies etc.						
<b>Free market capitalism</b>	Usually democratic Human rights High level	High level	Wide	Medium USA UK	No	Switz. Ireland
<b>Transition countries</b>	Usually Flawed Democracies Human rights?	Low level	Medium	Yes	Yes High or Medium	Western Balkans New EU Members
<b>Over-regulated capitalism</b>	Usually democratic Human rights High level	Limited due to frequent arbitration	Limited- over- regulation and fiscal instability	Medium High in Southern Europe	Yes No ?	Italy France Southern Europe
<b>Continental European</b>	Democratic	High Level	High	Low	No	Germany Holland Nordics

## REFERENCES

- Acemoğlu, D. & Robinson, J. (2012). *Why Nations Fail*, Crown Publishers, New York.
- Balcerowicz Leszek, (2014), Presentation at the biannual conference of the European Association for Comparative Economic Studies, The Institutional Systems and the Quality of Life (pdf.) Regensburg, 4-6. September.
- Boettke P.; Coyne C. & Leeson P. (2013), *Comparative Historical Political Economy*, Journal of Institutional Economics 9(3), 285–300.
- Bremmer I.(2010), *The End of the Free Market*, Portfolio, Penguin, New York.
- Dassah, M. (2018), *Theoretical Analysis of State Capture and its Manifestation as a Governance Problem in South Africa*, The Journal for Transdisciplinary Research in Southern Africa 14(1), a473. <https://doi.org/10.4102/td.v14i1.47>.
- Djankov E. L.; Laporta R.; Lopez-de-Silanes F. & Shleifer A. (2003), *The New Comparative Economics*, Journal of Comparative Economics, 31(4), 595-619.
- Economist, May 7th 2016. Eckstein Alexander (editor) (1973). *Comparison of Economic Systems – Theoretical and Methodological Approaches*. University of California Press, Berkeley.
- Ganev, V. (2007), *Preying on the State – The Transformation of Bulgaria since 1989*, Cornell University Press, New York.
- Gregory P. & Stuart R. (2014), *The Global Economy and its Economic Systems*, South-Western Cengage Learning. The United Kingdom.
- Hall, P. & Soskice D. (2001), *Varieties of Capitalism*. Oxford University Press, Oxford.
- Hellman J.; Jones G. & Kaufmann D. (2000), *Seize the State, Seize the Day: State Capture, Corruption and Influence in Transition*, World Bank Policy Research Paper 2444, September.
- Kaufman, D. (2003) *Rethinking Governance: Empirical Lessons Challenge Orthodoxy*, World Bank Institute, Discussion Draft, March. Washington D.C.
- Pryor F., (2004), *Economic Systems of OECD Nations: Impact and Evolution*, Papers on Economics and Evolution, no.414, Max Planck Institute, Jena. Swilling Mark (editor), 2017, *Betrayal of the Promise: How South Africa is Being Stolen*, State Capacity Research Project, Cape Town, May.
- Weber, M. (1978), *Economy and Society -an Outline of Interpretive Sociology*, University of California Press, Berkeley.

## Models of Measurement of Quality of Banking Services

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### Abstract

The quality of banking services has become an essential factor in communicating with all stakeholders. The importance of quality is irreplaceable when it comes to its contribution to the achievement of the goals of banks aimed at retaining clients, increasing market share and building loyalty. In practice, there is a discrepancy in the insufficiently determined manner and possibilities of measuring the quality of banking services. Application of different models in quality measurement is further complicated by the fact that neither the service nor the service process can be standardised in the area of banking services, which prevents the use of well-known traditional models of quality standardisation. In this paper will be analysed models of quality measurement tailored to the specifics of the banking service that can recognise the key dimensions of quality that users of banking services consider important. The models will include the dimension of the comparison, so the categories of the fulfilment of user requirements and previous expectations will be compared. The research part encompasses the application of SERVQUAL models in measuring the quality of banking services, as one of the most frequently used methods for measuring the quality of services. The data collected by qualitative exploratory research were processed using a statistical method with the SPSS program package and will analyse possible differences in expectations and perceptions of users of banking services from the aspect of quality dimensions about the socio-demographic characteristics of the respondents.

**Keywords:** Banking services, Quality, models, clients

### 1. INTRODUCTION

Users of banking services have at their disposal a growing number of alternatives regarding the offer of financial services, as well as differences between suppliers, which the bank's clients are aware of. Employees play a key role in providing the quality of services and achieving the profit of the bank. With the growth of the bank, the bureaucratisation of procedures may sometimes negatively affect the sense of belonging of the staff and the willingness to adequately engage in contact with users, so the quality must also be seen from the perspective of changes that occur among the employees within the bank. Superior services, when quality is concerned, are considered the basic mechanism for achieving differentiation and competitive advantage of the bank (Meidan, Lewis & Mouthino, 1997,

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p.105). Banks expect the following from focusing on quality: greater loyalty and customer retention rate, which is more cost-effective than attracting new customers; increased opportunities for cross-selling; benefits and advantages for employees in terms of increased satisfaction with doing business, morale and communication with the bank; greater loyalty of employees; the relationship between the bank as an employer and employees, which leads to a smaller outflow of employees and lower costs of employment and training; better image of the bank and avoidance of price competition because successful services influence cost reduction; increased productivity; sales and market participation; profitability and business performance (Babić-Hodović, 2012: 271). For marketing managers, the problem of defining quality is one of the most important tasks. Berry and Gronroos believe that perceived service quality is a global rating, an attitude towards service, or the result of comparison between current service performances and user expectations. A service gap will appear that will affect the dissatisfaction of users, if, according to them, the service performances are weaker, and the definition of the expectation category depends on the source used and can include expectations: from banking services in general, the service of a particular bank or expectations in general. Therefore, it is necessary to act in the direction of removing or reducing the observed gap, if banks want to reduce the level of dissatisfaction among users. The importance of quality is irreplaceable when it comes to its contribution to the achievement of goals of banks aimed at retaining clients, increasing market share and building loyalty. However, the manner and possibilities of measuring quality have remained inconsistent and insufficiently determined. The application of different models in quality measurement is further complicated by the fact that neither the service nor the service process can be standardized in the area of banking services, which prevents the use of well-known traditional models of quality standardisation. Therefore, it is necessary to opt for quality measurement models that can ensure the balance of all the specific features of the service process itself.

This paper will analyse the quality measurement models tailored to the specific features of the banking service which can recognise the key dimensions of quality that the users of banking services consider important. The research part of the paper will include the application of the SERVQUAL model in the measurement of the quality of banking services, as one of the most frequently used methods for measurement of the quality of services.

The subject matter of research of this paper is to determine the satisfaction of customers with the quality of banking services in Montenegro, and whether the banks recognise the importance of investing in employees in order to improve the quality of banking products and services. The paper aims to determine the extent of discrepancy between received services and expected ones, regarding quality dimensions, by using the SERVQUAL model. The initial hypothesis reads: The quality of banking services is an important factor for the creation of satisfied and loyal consumers, and by improving the quality of banking services, competitive advantage and a stronger position of banks in the

financial market are achieved. Based on the conducted quantitative exploratory research, it will be concluded whether there is a gap regarding what consumers expect and what they receive regarding the quality of banking services.

## 2. LITERATURE REVIEW

Traditional quality measurement models are not acceptable for the service process and measurement of the quality of banking services because of the specific nature of banking services and the impossibility to standardise them. The "hardware" components of the service process in banks are a necessary but not a sufficient condition for certain customer satisfaction with the quality of the provided service. One of the relevant models that are accepted in banks for quality measurement is the SERVQUAL model, consisting of 44 statements that measure user expectations and perceptions across five dimensions: tangibility, reliability, responsiveness, assurance, and empathy (Parasuraman, Zeithaml, & Berry, 1988). Another model which is emphasised in the economic theory is the SERVPERF model that emphasises the performance of the service rather than the relationship between perceptions and expectations. This model consists of 44 statements that evaluate the quality of service, intended for measurement of the quality of services, but an instrument that would measure the quality of service in banking is missing (Cronin, Steven Jr & Taylor, 1992). The BANKSERV model is an instrument for measuring the quality of banking services focused on the operations of banks with the population. It was developed in Australia, and as a starting point when creating this scale, the SERVQUAL scale was used, and it included four dimensions of quality: staff conduct, communication, credibility and access to teller services based on 17 statements (Avkiran, 1994). In Canada, the so-called BSQ (Banking Service Quality) was developed as an instrument for measuring the quality of banking services, developed on a sample of 115 service users. It includes 31 statements which describe six dimensions of quality (effectiveness and assurance, access, price, tangibles, services portfolio and reliability) (Bahia & Nantel, 2000). The CARTER model is an instrument for measuring the quality of banking services developed in Kuwait on a sample of 360 users, harmonised with the Islamic law. It contains 34 statements describing six dimensions of quality: compliance with Islamic laws, assurance, reliability, tangibles, empathy and responsiveness (Othman & Owen, 2008). In China, the CBSQ scale (Chinese Banking Service Quality) was developed as an instrument for measuring the quality of banking services on a sample of 259 financial managers. It is intended for measuring quality in corporate banking. It contains 20 pairs of statements which relate to four dimensions of quality: reliability, human capital, communication and technology. These instruments are aimed at measuring the quality of banking services and point to the conclusion that the application of a scale measuring the quality of banking services is strongly influenced by the culture and services in the environment (Guo, Duff & Hair, 2008).



One of the models used in the last few decades is the TQM model. It is "a management approach in an organisation focused on quality, based on the involvement of all members of the organisation, aimed at long-term success through customer satisfaction, and for the benefit of all members of the organisation and society. In banks, the TQM model should be viewed as a "way of managing the entire business process in order to ensure the satisfaction of internal and external users at all levels" (Babić-Hodović, 2012, 276).

According to Zeithaml, Parasuraman and Berry, the measurement of gaps and determination of their causes is the subject of a special analysis known as the gap analysis. (Zeithaml, Parasuraman, & Berry, 1990, p.43) It is an upgrade of the ServQual model, which provides the basis for improving perceptions and expectations. The gap model starts from the assumption of different levels of expectations with which the user enters the service process. In the first place, it is thought that the quality of customer service is the difference between the perceived service, the performances of the banking service, as experienced by the user at that moment, and the expected service.

In practice, the Kano model is often used to measure the quality of banking services. When compared with traditional, but also modern models of quality measurement, the Kano model integrates quality measurement in a two-dimensional system of service performances and investments in certain dimensions<sup>3</sup> Within the Kano model, three important dimensions have been identified, which measure the quality of services and determine the reaction of the customer: basic factors of the quality of services which must be present so that the service and the service process can be considered realized satisfactorily, differentiating factors which constitute the basis for differentiation between the services provided by the bank and competitive services and delighters or "exciters" whose presence provokes extremely positive reactions of users since users neither expected them, nor asked for them (Spool, 2011, p. 293).

The Gronroos model of quality measurement includes the previously described dimensions of the quality of banking services. According to this model, the quality of banking services consists of two dimensions: the functional dimension or the quality of the process of providing banking services, an attitude of the bank's staff towards customers and the technical dimension which implies the quality of the output, the results that the user receives in interaction with the bank (Gronroos, 2000, p. 71) The model retains the categories of expectations and perceptions, as well as several other models, in particular, the ServQual model. In the Gronroos model, the perception is divided between what the user receives in the end and his experience in using the service at the bank.

By the previous research, the need for designing new instruments for measuring the quality of banking services or correcting the existing ones can be noted and recommended

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<sup>3</sup> [http://www.ideationtriz.com/paper\\_TRIZ\\_Within\\_Context.asp](http://www.ideationtriz.com/paper_TRIZ_Within_Context.asp)

within which the social and cultural characteristics of a particular area in which the research is carried out would be interwoven.

Thus, by research in six banks in India in 2012, very significant results were achieved that the clients were mostly satisfied with the employees. Thus, the relations with employees, their skills and provision of services were ranked first by 26.75% of clients when assessing the quality of services. The provision of reliable services occupied second place with 22.1%, while the exterior of banks was in third place with 11.83%. Convenience, i.e. the assessment of the adequate location of the branch office occupied the fourth place, as well as the expansion of Internet services and services on ATMs with a share of 10.72%. One research into the perception of quality (speed, efficiency and kindness) showed that older adults preferred slower services because their purchase represents a social interaction (Blanchard & Galloway, 1994).

In New Mumbai, the conclusion was drawn that the clients had shown a very positive attitude towards the banks in this city, regarding satisfaction, if the bank fulfilled its promises. Moreover, based on a survey in New Mumbai, it was concluded that the banks in this city must work on the reduction of the gap between customer expectations and experiences. Research in the UK shows that internal marketing is inextricably linked with the quality of services and satisfaction of employees (Papasolomou-Doukakis, 2003, p.213). Properly set business goals related to the quality of banking services must be measurable, realistic, understandable, optimal and justified, and thus become a strong motivating factor for employees, which is a basic precondition for the successful business performance of the bank on the one hand, and customer satisfaction, on the other (Severovic, Žajdala & Cvetković-Šostarić, 2009, 149).

### **3. RESEARCH METHODOLOGY**

The subject matter of the research is to determine the satisfaction of customers with the quality of banking services in Montenegro, and whether the banks recognise the importance of investing in employees in order to improve the quality of banking products and services. The paper aims to determine the extent of discrepancy between received services and expected ones, regarding quality dimensions, by using the SERVQUAL model. In this way, the attention is drawn to the main shortcomings in the service process, whose improvement also affects the improvement of quality, business environment, and hence the competitive advantages of banks.

The initial hypothesis reads: The quality of banking services is an important factor for the creation of satisfied and loyal consumers, and by improving the quality of banking services, competitive advantage and a stronger position of banks in the financial market are achieved.

Quantitative exploratory research was conducted on a non-random, convenient sample of 491 respondents (Raičević, M., 2018). The data were collected by the survey method, through a specially designed questionnaire adjusted to the SERVQUAL method. The survey was conducted in the field and online in the period February/March 2018 in the territory of Montenegro. The questionnaire consisted of two parts. The first part of the questionnaire referred to the collection of general data on users of banking services, while the second part of the questionnaire measured the dimensions of the quality of banking services through 21 pairs of statements, using the SERVQUAL method. Every statement is followed by a five-point Likert scale, which expresses the degree of agreement or disagreement with a given statement (from 1 - I totally disagree to 5- I completely agree). The SPSS statistical package was used for data processing. For the needs of the paper, the analysis of dimensions was used, as well as the analysis of the overall unique quality measurement of the service quality, the so-called "SERVQUAL gap, independent samples T-tests and ANOVA in order to determine whether there are differences in expectations/perceptions of users of banking services in Montenegro by dimensions, with regard to socio-demographic characteristics: age, level of education, employment status and level of monthly income.

It was found out by descriptive statistics that 50.9% of female respondents were involved in the study. The age structure of respondents was as follows: respondents aged 20-29 accounted for 20,1% of the sample, respondents aged 30-39 were the most numerous in the sample and accounted for 31,4%, respondents aged 40-49 accounted for 23, 3%, those aged 50-59 accounted for 12.8%, while 12.2% of respondents were over 65 years of age. According to the achieved level of education, the majority of surveyed respondents had a university diploma (50.9%), followed by respondents with secondary school education (38.1%), respondents with postgraduate diploma accounted for 9.2% while the smallest percentage was of those with elementary education (1.8%). The survey was dominated by the employed with the percentage of 79.4%, while the total number of unemployed and pensioners amounted to 20.6 %. The level of monthly personal income was classified into 5 categories in the range of 300 euros for each next category and the sample structure of the respondents who answered this question was the following: the largest number of respondents (45.4%) have monthly personal income in the range of 301-600 euros, The two categories of respondents are almost equally represented: respondents with monthly personal income up to 300 euros (23.9%) and respondents with monthly personal income of 601-900 euros (23.3%), respondents whose monthly personal income ranges from 901-1200 euros make up 5.3% of the sample, and respondents with monthly personal income over 1200 euros are represented with 2.1%.

#### 4. RESULTS OF MEASUREMENT OF QUALITY OF BANKING SERVICES

In order to compare and rank the defined quality dimensions, Table 1 shows the gap, i.e. the perceived quality between these dimensions. According to the obtained results, in all dimensions of quality, there is a negative gap between the quality of the perceived and the expected service. The largest negative gap occurs within the "Reliability" dimension (-0.93), while the smallest negative gap is within the dimension "Tangibility" (-0.46). It can be concluded that the quality dimensions "Reliability", "Responsiveness" and "Assurance" are the dimensions which banks need to work on in particular when defining the quality and delivery process if they want satisfied and loyal consumers. The average SERVQUAL gap between the quality of perceived and expected service is negative, and it is -0.78.

**Table 1:** The Gap Between the Quality of Perceived and Expected Service by Dimensions

EXPECTATIONS (E)			PERCEPTION (P)			The gap between the quality of perceived and expected service (P-E)
DIMENSIONS	Arithmetic mean	SD	DIMENSIONS	Arithmetic mean	SD	
Tangibility	4.54	0.52	Tangibility	4.08	0.66	-0.46
Reliability	4.68	0.45	Reliability	3.75	0.77	-0.93
Responsiveness	4.48	0.56	Responsiveness	3.62	0.86	-0.86
Assurance	4.67	0.45	Assurance	3.81	0.82	-0.86
Empathy	4.32	0.67	Empathy	3.54	0.89	-0.78

Sources: Raičević & Medenica-Mitrović, 2018, p. 120

*The paired sample T-test* was used to determine the differences between the pairs of dimensions of the quality of perceived and expected banking services in Montenegro. It can be concluded with 99% of confidence that there are statistically significant differences between the perceived and expected quality of banking services in Montenegro for each of the five dimensions ( $t$  = from -14,141 to -25,195;  $p$  = 0,000 < 0,05).

*The independent samples T-test* established differences in expectations and differences in perceptions of users of banking services in Montenegro by dimensions, with regard to gender. The results for the independent t-test show that in the case of the SERVQUAL dimension "Reliability" ( $t$  = -3.575;  $p$  = 0.000 < 0.05) the zero hypothesis is rejected and it can be concluded that there is a statistically significant difference in the expectation dimension with regard to gender, in favour of female respondents. For other dimensions, "Tangibility" ( $t$  = -1.469;  $p$  = 0.143 > 0.05), "Responsiveness" ( $t$  = -0.277;  $p$  = 0.782 > 0.05), "Assurance" ( $t$  = -1.636;  $p$  = 0.102 > 0.05) and "Empathy" ( $t$  = -0.481;  $p$  = 0.631 > 0.05) the zero hypothesis is accepted and it is concluded that there is no statistically significant difference in the quality of expected banking services between men and women.

An alternative auxiliary hypothesis has been defined for each dimension of the quality of perceived banking services: H4 *"There is a statistically significant difference in SERVQUAL dimensions in the perceptions of users of banking services about gender."*

The results obtained show that for the Levene's test we have  $p > 0.05$  for all five dimensions "Tangibility" ( $p = 0.384$ ), "Reliability" ( $p = 0.247$ ), "Responsiveness" ( $p = 0.409$ ), "Assurance" ( $p = 0.193$ ) and "Empathy" ( $p = 0.489$ ), so that the t-test is done with equal variances assumed, i.e. there are no statistically significant differences in the variances of these two sub-samples.

The results for the independent t-test show that in the case of all five SERVQUAL dimensions "Tangibility" ( $t = 1,670$ ;  $p = 0,096 > 0,05$ ), "Reliability" ( $t = 0,599$ ;  $p = 0,549 > 0,05$ ) "Responsiveness" ( $t = 0,946$ ;  $p = 0,344 > 0,05$ ), "Assurance" ( $t = 1,066$ ;  $p = 0,287 > 0,05$ ) and "Empathy" ( $t = 0,220$ ;  $p = 0,826 > 0,05$ ) the zero hypothesis is accepted and it is concluded that there is no statistically significant difference in the quality of perceived or received banking services between men and women.

**F-test (ANOVA)** has been used to determine whether there are differences in expectations and differences in perceptions of users of banking services in Montenegro by dimensions, about socio-demographic characteristics: age, level of education, employment status and level of monthly income. For all these socio-demographic characteristics of respondents, alternative hypotheses have been defined for both expectations and perceptions.

For expectations, the alternative hypothesis reads H1: *"There is a statistically significant difference in the SERVQUAL dimensions in the expectations of users of banking services about age."*

The results of the f-test show that in the case of the SERVQUAL dimensions "Tangibility":  $F(4; 462) = 3.265$ ;  $p = 0.012 < 0.05$ ; "Responsiveness":  $F(4; 462) = 2.395$ ;  $p = 0.050 < 0.05$  and "Assurance":  $F(4; 462) = 3.317$ ;  $p = 0.011 < 0.05$  the zero hypothesis is rejected and it can be concluded that there is a statistically significant difference in the expectation dimensions, with regard to age in favour of the respondents aged 30 to 59. For other dimensions, "Reliability":  $F(4; 462) = 1,868$ ;  $p = 0,115 > 0,05$  and "Empathy":  $F(4; 462) = 1,635$ ;  $p = 0,164 > 0,05$  the zero hypothesis is accepted and it is concluded that there is no statistically significant difference in the quality of expected services with regard to age groups of respondents.

For perceptions, the alternative hypothesis reads H5: *"There is a statistically significant difference in SERVQUAL dimensions in the perceptions of users of banking services about age."*

The results of the f-test show that, in the case of the SERVQUAL dimensions "Tangibility":  $F(4; 462) = 3.963$ ;  $p = 0.004 < 0.05$  and "Responsiveness":  $F(4; 462) = 2.601$ ;  $p = 0.035 < 0.05$  the zero hypothesis is rejected and it is concluded that there is a statistically

significant difference in the perception dimensions with regard to age, in favour of the respondents of the 30-39 and 50-59 age groups. For other dimensions, "Reliability":  $F(4; 462) = 1,217$ ;  $p = 0,303 > 0,05$ ; "Assurance":  $F(4; 462) = 1,899$ ;  $p = 0,109 > 0,05$  and "Empathy":  $F(4; 462) = 2,044$ ;  $p = 0,087 > 0,05$  the zero hypothesis is accepted and it is concluded that there is no statistically significant difference in the quality of perceived services with regard to age groups of respondents.

For the level of education, the alternative hypothesis reads H3: "There is a statistically significant difference in SERVQUAL dimensions in the expectations of users of banking services about the level of education."

The results of the f-test show that, in the case of the SERVQUAL dimensions "Tangibility":  $F(3; 487) = 5,314$ ;  $p = 0,001 < 0,05$  and "Reliability":  $F(3; 487) = 4,340$ ;  $p = 0,005 < 0,05$  the zero hypotheses is rejected and it can be concluded that there is a statistically significant difference in the expectation dimensions with regard to the level of education of respondents and that the level of education statistically significantly affects the quality of the expected banking services. With the rise in the level of education, the level of quality of the expected banking services of users also rises. For other dimensions, "Responsiveness":  $F(3; 487) = 0,908$ ;  $p = 0,437 > 0,05$ , and "Assurance":  $F(3; 487) = 1,604$ ;  $p = 0,187 > 0,05$  and "Empathy":  $F(3; 487) = 0,163$ ;  $p = 0,921 > 0,05$ , the zero hypothesis is accepted and it is concluded that there is no statistically significant difference in the quality of the expected services with regard to the level of education of respondents.

For perceptions and the level of education, the alternative hypothesis reads H6: "There is a statistically significant difference in SERVQUAL dimensions in the perceptions of users of banking services about the level of education."

The results of the f-test show that in the case of all five SERVQUAL dimensions, "Tangibility":  $F(3; 487) = 1,915$ ;  $p = 0,126 > 0,05$ , "Reliability":  $F(3; 487) = 0,546$ ;  $p = 0,651 > 0,05$ , "Responsiveness":  $F(3; 487) = 0,708$ ;  $p = 0,547 > 0,05$ , "Assurance":  $F(3; 487) = 0,617$ ;  $p = 0,604 > 0,05$  and "Empathy":  $F(3; 487) = 1,404$ ;  $p = 0,241 > 0,05$ , the zero hypothesis is accepted and it is concluded that there is no statistically significant difference in the quality of the received services with regard to the level of education of respondents.

For employment status, the alternative hypothesis reads H2: "There is a statistically significant difference in SERVQUAL dimensions in the expectations of users of banking services about the employment status."

The results of the f-test show that in the case of the SERVQUAL dimension "Tangibility":  $F(2; 488) = 4,325$ ;  $p = 0,014 < 0,05$  the zero hypothesis is rejected and it can be concluded that there is a statistically significant difference in the expectation dimensions with regard to the employment status, in favour of the respondents in work. For other dimensions, "Reliability":  $F(2; 488) = 2,786$ ;  $p = 0,063 > 0,05$ , "Responsiveness":  $F(2; 488) =$

0,913;  $p = 0.402 > 0.05$ , "Assurance":  $F(2; 488) = 2.703$ ;  $p = 0.068 > 0.05$  and "Empathy":  $F(2; 488) = 1.584$ ;  $p = 0.206 > 0.05$  the zero hypothesis is accepted and it is concluded that there is no statistically significant difference in the quality of the expected services with regard to the employment status of respondents.

About the received services, the alternative hypothesis for employment status reads as follows: H7: "There is a statistically significant difference in SERVQUAL dimensions in the perceptions of users of banking services about the employment status."

The results of the f-test show that, in the case of the SERVQUAL dimensions "Tangibility":  $F(2; 488) = 8.443$ ;  $p = 0.000 < 0.05$  and "Responsiveness":  $F(2; 488) = 3.131$ ;  $p = 0.045 < 0.05$ , the zero hypothesis is rejected and it can be concluded that there is a statistically significant difference in the dimension perceptions with regard to the employment status, in favour of the respondents in work. For other dimensions, "Reliability":  $F(2; 488) = 1.380$ ;  $p = 0.253 > 0.05$ , "Assurance":  $F(2; 488) = 2.433$ ;  $p = 0.089 > 0.05$  and "Empathy":  $F(2; 488) = 2.867$ ;  $p = 0.058 > 0.05$  the zero hypothesis is accepted and it is concluded that there is no statistically significant difference in the quality of the services received with regard to the employment status of respondents.

For the level of monthly income, the alternative hypothesis reads H3: *"There is a statistically significant difference in SERVQUAL dimensions in the expectations of users of banking services about the level of monthly income."*

The results of the f-test show that, in the case of the SERVQUAL dimension "Reliability":  $F(4; 481) = 2.885$ ;  $p = 0.022 < 0.05$ , the zero hypothesis is rejected, and it can be concluded that there is a statistically significant difference in expectation dimensions with regard to the level of monthly income of respondents, in favour of respondents with monthly income from 301 to 600 EUR and over 1,200 EUR. For other dimensions, "Tangibility":  $F(4; 481) = 1.497$ ;  $p = 0.202 > 0.05$ , "Responsiveness":  $F(4; 481) = 1.316$ ;  $p = 0.263 > 0.05$ , "Assurance":  $F(4; 481) = 0.957$ ;  $p = 0.432 > 0.05$  and "Empathy":  $F(4; 481) = 2.172$ ;  $p = 0.071 > 0.05$  the zero hypothesis is accepted and it can be concluded that there is no statistically significant difference in the quality of expected services in relation to the level of monthly income of respondents.

For the level of monthly income, regarding the services received, the alternative hypothesis reads as follows: H8: "There is a statistically significant difference in SERVQUAL dimensions in the perceptions of users of banking services about the level of monthly income".

The results of the f-test show that, in the case of SERVQUAL dimensions "Tangibility":  $F(4; 481) = 3.357$ ;  $p = 0.010 < 0.05$ , "Responsiveness":  $F(4; 481) = 4.446$ ;  $p = 0.002 < 0.05$  and "Assurance":  $F(4; 481) = 2.395$ ;  $p = 0.050 < 0.05$  the zero hypothesis is rejected and it can be concluded that there is a statistically significant difference in the perception dimensions

with regard to the level of monthly income of respondents. With the rise of monthly income, the level of quality of perceived banking services of customers also rises. For other dimensions, "Reliability":  $F(4; 481) = 2,342$ ;  $p = 0,054 > 0,05$ , and "Empathy":  $F(4; 481) = 1,374$ ;  $p = 0,242 > 0,05$ , the zero hypothesis is accepted and it is concluded that there is no statistically significant difference in the quality of perceived services given the level of monthly income of respondents.

## 5. CONCLUSION

Neither the service nor the service process can be standardised in the area of banking services, which prevents the use of well-known traditional quality standardisation models. There are numerous models, briefly analysed in the paper, used in modern banking practice which are adapted to various specific features of the banking service and which in different ways recognise the key quality dimensions that are significant for users of banking services. In the research part of the paper, the SERVQUAL model was applied to measuring the quality of banking services, as one of the most frequently used methods for measuring the quality of services.

Based on the quantitative exploratory research conducted, it can be concluded that there is a gap regarding what consumers expect and what consumers receive about the quality of banking services. This gap is particularly pronounced through the quality dimensions "Reliability", "Responsiveness" and "Assurance", which confirms the hypotheses that the improvement of the quality of banking services is achieved by investing in the knowledge, development and training of employees, and that a higher level of business operations is ensured, through satisfied and loyal consumers, by involving all employees in the process of quality enhancement and developing awareness of its significance. The research results show that there are statistically significant differences in expectations, as well as in perceptions of users of banking services in Montenegro, by quality dimensions, about gender. Moreover, it has also been established that there are differences in expectations, as well as perceptions of users of banking services in Montenegro, according to the dimensions of quality, about socio-demographic characteristics: age, level of education, employment status and the level of monthly income. This has confirmed the set hypotheses that there are statistically significant differences in both the expectations and the perceptions about the sociodemographic characteristics of respondents.



## REFERENCES

- Avkiran, N. K. (1994), Developing an Instrument to Measure Customer Service Quality in Branch Banking, *International Journal of Bank Marketing*, 12(6), 10-18.
- Babić-Hodović, V. (2012), *Marketing u bankarstvu*, Ekonomski fakultet, Sarajevo, str.271
- Bahia, K. & Nantel, J. (2000), A reliable and valid measurement scale for the perceived service quality of banks, *International Journal of Bank Marketing*, 18 (2), pp. 84-91.
- Blanchard, R.F. & Galloway, R.L. (1994), Quality in Retail Banking, *International Journal of Service Industry Management*, Vol. 5 Issue: 4, pp.5-23.
- Cronin, J. & Steven Jr, Taylor, A. (1992), Measuring Service Quality: A Reexamination and Extension, *Journal of Marketing*.
- Gronroos, C. (2000), *Services Management and Marketing*, John Wiley and Sons, str.7
- Guo, X, Duff, A., Hair, M. (2008), Service quality measurement in the Chinese corporate banking market", *International Journal of Bank Marketing*, 26(5), 305-32
- Meidan, A., Lewis, B., Mouthino, L. (1997), Financial Services Marketing - A Reader, *The Dryden Press*, London, str.105
- Othman, A.Q. & Owen, L. (2008), Adopting and Measuring Customer Service Quality (sq) in Islamic Banks: A case study in Kuwait Finance house, *International Journal of Islamic Financial Services*, Vol. 3. No. 1
- Papazolomou-Doukakis, I. (2003), Internal marketing in the UK retail banking sector: Rhetoric or reality? *Journal of Marketing Management*, 19, p. 213
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988), "SERVQUAL: a multi-item scale for measuring consumer perceptions of the service quality", *Journal of Retailing*, Vol. 64, No. 1, pp. 12- 40.
- Raičević, M., Preliminary research for the needs of the doctoral dissertation, working title Influence of internationalization on the quality of banking services in Montenegro (Preliminary research for the needs of development of the doctoral thesis of the working title: The impact of internationalization on the quality of banking services in Montenegro), Fakultet za poslovne studije, Univerzitet Mediteran, 2018.
- Raičević, M., Medenica-Mitrović, D., „Measurement of the Quality of Banking Services in Montenegro by Applying the SERVQUAL Model, XIV International May Conference on Strategic Management IMKSM18, Technical Faculty in Bor, University of Belgrade
- Edition IMCSM Proceedings; vol. 14, issue (2) (2018), Bor, pp 111-123,*  
[http://media.sjm06.com/2018/07/Proceedings\\_IMCSM18\\_Issue-2.pdf](http://media.sjm06.com/2018/07/Proceedings_IMCSM18_Issue-2.pdf)
- Severović K., Zajdala N., Cvetković Šošćarić B. (2009), Konceptualni model kao alat za upravljanje kvalitetom bankarskih usluga, *Ekonomski vjesnik*, 22(1), str. 149.

Raičević, M. & Žugić, J. (2018). Models of Measurement of Quality of Banking Services. *International Symposium on Business and Economics Montenegro, 5th-8th September 2018*

Spool, M.J. (2011), Understanding the Kano Model - A Tool for Sophisticated Designers, *User Interface Engineering*, January 18, str.293

Zeithaml, A.V.; Parasuraman, A.I. & Berry, I.I. (1990), *Delivering Service Quality*, The Free Press, p.43.

*Internet sources*

[http://www.ideationtriz.com/paper\\_TRIZ\\_Within\\_Context.asp](http://www.ideationtriz.com/paper_TRIZ_Within_Context.asp), date of access 03.08.2018.

## **Analysis of the Activities of the Branch Offices of Foreign Transnational Companies in Montenegro and the Economies of the Countries Surrounding**

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### **Abstract**

Side branches are gaining an increasingly significant role in the Western Balkan countries. In this paper, by the data of the national statistical institutions by applying the FATS statistics, provides a comparative analysis of the activity of foreign affiliates in Montenegro and three countries from its environment for the period 2013-2016. years of age. The aim of this work is to be monitored through the period assessed the role of the foreign subsidiary in Montenegro and to compare the results obtained with the achievements of foreign branch offices environments in some countries. The results indicate that side branches significantly affect economic activity in these countries. It is evident that they contribute to the most important areas of economic activity. On the branches that are under the majority control of a foreign owner, wastes a significant portion of total employment, turnover, value added. So, in Montenegro, as well as in other countries, the environment, transnational companies represent a very active Chamber of the participants, but their potential is far from their full utilisation.

**Keywords:** Trans-national companies, Foreign direct investment, FATS statistics

### **1. INTRODUCTION**

With the process of globalisation, the dominant players in the world economy have become transnational companies. At the beginning of the twenty-first century, their number was about 82 thousand, and the number of their foreign affiliates reached a figure of 807 thousand. Their power is borne out by the fact that in 2014, foreign affiliates of transnational companies hired 75 million workers. If this number is multiplied by 4 or the number of members of an average four-member family, we get a figure of 300 million people who directly or indirectly depend on transnational companies. In 2014, the affiliates of transnational companies made 36 trillion USD in sales and 8 trillion USD worth of exports. Given that the world exports of goods and services in 2014 amounted to 23,4 trillion USD that is, the export of branches of transnational companies accounts for 1/3 of world exports. We note that the value of sales of foreign affiliates exceeded world exports by 50%.

Transnational companies by undertaking foreign direct investments have largely changed the world trade. Instead of classical exports of goods and services, they invest in

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their branches all over the world. Thus, the sales of these foreign affiliates in the country of operation are considerably higher than the direct export of the home countries to the country of the host branch.

The classic external trade statistics do not record exports by foreign affiliates, but only records exports of goods and services between countries. The need to introduce a new statistical concept is reflected in the growing volume of sales of foreign affiliates, and thus the recording of exports by these subsidiaries. For statistical monitoring of the operations of these companies, a new approach has been developed in the analysis of international trade of foreign affiliates-Foreign Affiliates Trade Statistics-FATS, which also applies to goods and services.

These statistics can be developed as an inward or outward FATS that monitors the activities of foreign affiliates in the country to the statistics compiler and an external or exit FATS that monitors the activity of a branch of the country of the statistics compiler abroad. The compilation of FATS statistics can be done geographically, according to the observed country, then by certain sectors and according to the product. Only companies in majority foreign ownership are covered. For the country of origin of capital, the country of the final investor of the branch is determined, because that country owns or controls branches. The basic variables that measure the activity of foreign affiliates are sales, employment, value added, exports and imports of goods and services and the number of companies.

In Montenegro, as well as in the countries of the region compiled statistics of international trade according to the FATS concept is at the beginning. All these countries have to work more heavily on developing these new statistics in order to monitor the activities of foreign affiliates in domestic economies, which the existing analysis system does not allow. Economic policymakers in these countries, without delineated data on the activities of companies controlled by domestic and foreign capital, do not have a real basis for adopting adequate decisions and measures.

In this paper, we will analyse the operations of foreign affiliates in Montenegro and the countries of the region, Croatia, Serbia and Bosnia and Herzegovina. We will consider the influence of foreign affiliates on their economies through the participation they make in certain economic variables. These countries will need to maintain most of their benefits through the improvement of their resources (Bjelic, Trošić&Petrović, 2010). Therefore, we will talk about applying the FATS concept (inward FATS) in their international trade statistics.

## **2. FOREIGN AFFILIATES IN THE REPUBLIC OF CROATIA**

The analysis of the direct and indirect effects of foreign affiliates in the Croatian economy is monitored by various variables, such as the number of foreign affiliates, employment, value added, turnover and other. Data are available from the reference of 2008.

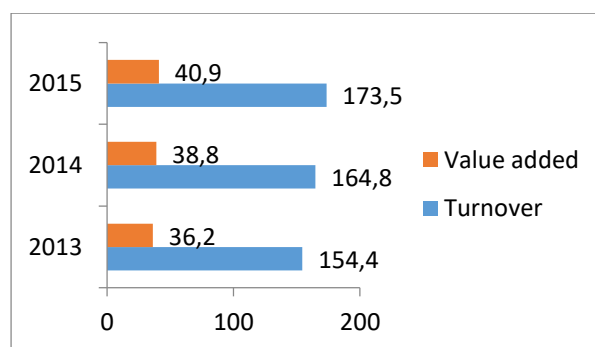
The number of foreign subsidiaries in the Republic of Croatia in 2015 was 4.685, which is 3,2% of the total number of active business entities (Croatian Bureau of statistics, 2017). Compared to 2014, the number of foreign affiliates increased by 15%, when it was 4.078 (Croatian Bureau of statistics, 2016). In 2013, there were 3.986 foreign affiliates registered in Croatia, which is 1,4% of the total number of active business entities (Croatian Bureau of statistics, 2014).

Analysing employment, we note that the number of employees in foreign branches in the observed period grew year by year. In 2013, 126.824 employees worked in foreign affiliates in Croatia, in 2014 133.152 employees, in order to have 151.487 persons in the foreign branch in 2015. According to the data of the State Statistical Office, 989.598 employees were employed in Croatia, so 15,3% of the total number of employees was employed by foreign affiliates.

The turnover of foreign affiliates in Croatia in 2015 reached a value of 173,5 billion HRK (22,7 billion EUR, 1EUR=7,64 HRK, Internet, [www.hnb.hr](http://www.hnb.hr)) which is 5,3% more than in 2014 when it amounted to 164,8 billion HRK. In 2013, the turnover of foreign affiliates in Croatia amounted to 154,4 billion HRK. The participation of foreign affiliates in total turnover in Croatia is significant, so in 2015 it was 29,3%.

Analysing the operations of foreign affiliates in Croatia, we note that the value-added of foreign affiliates reached a value of 40.9 billion HRK in 2015, which is 5.2% more than in 2014. Observing data from the chart, we note that the value added of foreign affiliates in 2013 amounted to 36.2 billion HRK. We can notice that in the analysed period the value added increased by about 2 billion HRK, or about 260 million EUR.

**Graphic 1:** The turnover and value added created by foreign affiliates in Croatian period 2013-2015, in billions HRK



**Source:** Croatian Bureau of statistics

The participation of foreign affiliates operating in Croatia in creating value-added is significant. Total added value in Croatia in 2015 amounted to 161.5 billion HRK (Croatian

Bureau of statistics, 2017), that is, foreign affiliates participated in the creation of value added with 22,5%.

**Table 1:** Basic Data on the Operations of Foreign Affiliates in Croatia, 2013-2015 Years

	Share in the total number of companies	Share in the total number of persons employed	Share in the total value added
2013	2,7	12,7	24,0
2014	2,8	13,3	24,9
2015	3,2	15,3	25,3

**Source:** Croatian Bureau of Statistics, Own Author's Budget

Considering the role and importance of foreign subsidiaries in Croatia, we conclude that they have a great influence on the Croatian economy. Analysing their activities (inward FATS), we have seen that they make a major contribution to the key economic areas, have a significant share in employment, transport and added value, growing year after year.

### 3. FOREIGN AFFILIATES IN THE REPUBLIC OF SERBIA

Foreign affiliates are gaining an increasingly important role in the Serbian economy. After the increasing inflow of foreign direct investments and the increasing transnationalization of the economy, the need for applying a new statistical approach in the foreign trade analysis of Serbia has emerged.

Statistical Office of the Republic of Serbia since 2011 for the calculation of basic indicators on the operations of foreign affiliates in the Republic of Serbia (inward FATS). The goal of these statistics is to point out the significance and influence of foreign affiliates on the Serbian economy.

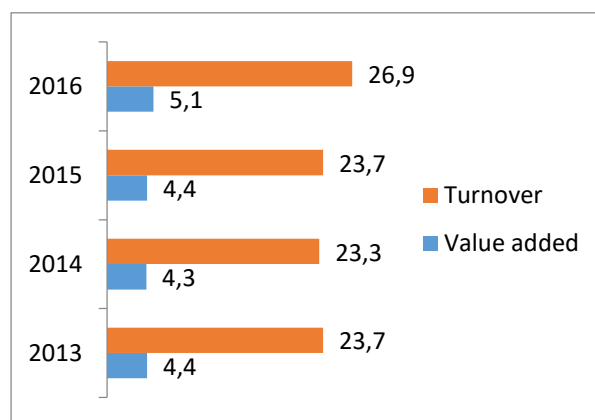
In 2016, 2.713 foreign affiliates operated in the Republic of Serbia (Statistical Office of the Republic of Serbia, 2017), which is 3,0% of the total number of registered business entities. Compared to 2015, the number of foreign affiliates increased by 3,7%. In 2014, there were 2.624 foreign affiliates in Serbia, which is 0,7% less than in 2013, when 2.642 foreign affiliates operated.

In 2016, the foreign affiliates employed 223.125 persons or 21% of the total number of employees. In only three sectors, 181.834 people or 81,5% of the total number of employees in foreign affiliates were hired: manufacturing (111.850), wholesale and retail trade and repair of motor vehicles (50.296) and administrative and auxiliary service activities (19.688).

Value-added created by foreign affiliates in Serbia in 2016 reached a value of 597,7 billion RSD (5,1 billion EUR, 1EUR=117,7RSD, Internet, [www.nbs.rs](http://www.nbs.rs)). According to the data of the Republic Statistical Office, total value added in 2016 amounted to 1.845 billion RSD,

which means that 32,4% of the total value added was controlled by companies with majority foreign ownership.

**Graphic 2:** The Turnover and Value created by Faffiliates in Serbian period 2013-2016, in billions EUR



**Source:** Statistical Office of the Republic of Serbia

The turnover of foreign affiliates in Serbia in 2016 amounted to 3.163,2 billion RSD (26,9billions EUR, 1EUR=117,7RSD, Internet, [www.nbs.rs](http://www.nbs.rs)). The highest turnover was recorded by EU Member States (70,5%), followed by countries outside the European Union (28,0%), while the smallest turnover was recorded by offshore financial centres (1,5%).

**Table 2:** Basic Data on the Operations of Foreign Affiliates in Serbia, 2013-2016 years

	Share in the total number of companies	Share in the total number of persons employed	Share in the total value added
2013	3,0%	18,7%	33,7%
2014	3,0%	19,7%	34,0%
2015	3,0%	19,4%	32,5%
2016	3,0%	21,0%	32,4%

**Source:** Statistical Office of the Republic of Serbia

Considering the operations of foreign affiliates, we notice that they significantly affect the economic activity of Serbia. Their contribution to the most important areas of economic activity is evident. Branches that are under the majority control of a foreign owner account for a significant proportion of total employment, turnover and added value.

#### 4. FOREIGN AFFILIATES IN THE REPUBLIC BOSNIA AND HERCEGOVINA

The Agency for Statistics of Bosnia and Herzegovina published the results of the conducted research on the operations of foreign affiliates in its territory for 2012. The data obtained using the FATS statistics on input flows will show us how many employees work in foreign affiliates, how much traffic they have generated, how much their added value has been generated, and what are the costs of employees.

The number of foreign affiliates in 2015 amounted to 407, which makes up 12,7% of the total number of business entities in Bosnia and Herzegovina, which was an increase for 12 foreign affiliates compared to 2014. Year and 2013, when their number was the same and amounted to 388.

The total number of employees in foreign affiliates in the territory of Bosnia and Herzegovina in 2015 was 60.041, which makes 19,8% of the total number of employees. In foreign affiliates, 19,4% of the total number of employees were hired in 2014, that is, in 19,7% in 2013.

The affiliates in majority foreign ownership operating in the territory of Bosnia and Herzegovina in 2015, realised turnover worth 5,9 billion EUR. The highest turnover was expected in the manufacturing sector and the wholesale and retail sector.

Value-added created by foreign affiliates in Bosnia and Herzegovina in 2015 amounted to 1,57 billion EUR, which represents 24,6% of the total value added in this country. The share of the three sectors, the processing industry, the wholesale and retail trade and the information and communication sectors, accounts for 85% of the value added created in foreign affiliates.

The participation of foreign affiliates in total value added in Bosnia and Herzegovina in 2014 was 24,6% or 1,47 billion EUR. In 2013, foreign affiliates created EUR 1,3 billion of value-added, when they participated in the total value added with 23,1%.

**Table 3:** Basic Data on the Operations of Foreign Affiliates in Bosnia and Herzegovina, 2013-2015 years

	Chare in the total number of companies	Chare in the total number of persons employed	Chare in the total value-added
2013	12,4%	19,7%	23,1%
2014	12,2%	19,4%	24,6%
2015	12,7%	19,8%	24,6%

**Source:** Agency for Statistics of Bosnia and Herzegovina. The author calculates the convertible mark in the euro, according to parity 1BAM=0,51 EUR.



By analyzing the operations of foreign affiliates in the economy of Bosnia and Herzegovina, we have shown how many of these companies are active, how much they participate in employment, in turnover, in creating value added. We have shown how FATS statistics is a powerful tool in determining the contribution of foreign companies to the economy of the host country.

## 5. FOREIGN AFFILIATES IN THE REPUBLIC OF MONTENEGRO

Since 2014, the Statistical Office of Montenegro has introduced statistics of foreign affiliates (FATS) as a regular statistical survey, for the reference year 2013. Reports on business operations of subsidiaries controlled by companies with a head office outside Montenegro used in the analysis show percentage participation in their overall activities, while the aggregated data for 2013 were obtained by a written request by the author.

In 2016, 4,710 foreign-owned enterprises were active in Montenegro, or 16,7% of the total number of business entities (Statistical Office of Montenegro, 2017), which is 12,4% more than in 2015.

Application of the FATS concept in the statistics of international trade of Montenegro gave us data on the operations of foreign affiliates, which is shown in Table 4. Analysing data on turnover and gross value added, we will see how much the economy of Montenegro is influenced by foreign companies.

**Table 4:** Activities of Foreign Affiliates in Montenegro, 2013, in thousands of EURs

Sector	Turnover	Value-added
Wholesale and retail trade; repair of motor vehicles and motorcycles	536.023	41.746
Construction	27.483	8.425
Manufacturing	383.397	168.807
Services	288.678	138.357
Total:	1.235.581	357.335

**Source:** Data obtained from Monstat, based on a written request by the author.

Foreign affiliates turnover in Montenegro in 2013 amounted to 1,236 million EUR. Observed by sectors, the largest share in the turnover of foreign affiliates was recorded by the wholesale and retail trade and repair of motor vehicles and motorcycles, i.e. 43%, while the smallest share had the construction sector (2%). Bearing in mind the fact that the turnover realised by all companies operating in Montenegro in 2013 amounted to 6.374 million EUR (Statistical Office of Montenegro, 2014), we conclude that foreign affiliates in the total turnover participated with 19,4%.

In 2013, foreign affiliates in Montenegro achieved gross value added in the amount of 357 million EUR. The highest gross value added was created in the industry and services sector, which accounted for 86% of the total gross value added created by foreign subsidiaries in Montenegro. Considering that the gross value added of all companies operating in Montenegro in 2013 amounted to 1.139 million EUR (Statistical Office of Montenegro, 2014), we note that the participation of foreign affiliates of 27% represents a significant share.

Considering the business of foreign affiliates in Montenegro, we have seen that for its economy very important activities are branch offices of foreign companies. Foreign capital was mostly present in the trade and service sector, and most often came from Serbia. Foreign affiliates have made the largest contribution to the creation of gross added value. By analysing the four variables by activity, we noticed that the foreign subsidiaries in creating gross added value, intermediate consumption and value of production were most active in the industrial sector, while the biggest turnover was recorded in the wholesale and retail trade sector and repair of motor vehicles and motorcycles.

## 6. CONCLUSION

The application of the FATS concept in the analysed countries still has many problems. However, the increase in the inflow of foreign direct investment and the increase in the number of foreign affiliates in the markets of these countries inevitably indicates the need for further development of this statistical system.

The importance of foreign direct investment for these countries is best illustrated by their participation in the gross domestic product. For example, in the analysed period 2013-2016 these funds amounted to 2,11% of GDP of Bosnia and Herzegovina, 10,86% of GDP of Montenegro, 5,20% of Serbia and 2,65% of Croatia. All these data indicate the significant impact of foreign investment on the economies of these countries (UNCTAD, 2018).

Available data for internal FATS enabled the analysis of foreign affiliate operations in these countries. The main goal of the work was to look at the activity of these companies and to show their impact on the economies of the analysed countries.

Based on the latest available data on the operations of foreign affiliates in these countries, we note that the analysed countries have a different percentage of their participation in the total number of registered companies: Croatia-3,2%, Serbia-3,0%, Bosnia and Herzegovina- 12,7%, while the highest percentage was recorded in Montenegro-25,2%. The analysed data confirm that a significant number of foreign companies operating in Montenegro.

**Table 5:** Share of Foreign Affiliates in the Total Number of Companies and the Creation of Value Added in the Analysed countries for the available last year

Country	Share in the number of foreign affiliates in the total number of enterprises in the country	The share of foreign affiliates in creating value added to the country
Croatia	3,2%	25,3%
Serbia	3,0%	32,4%
Bosnia and Herzegovina	12,7%	24,6%
Montenegro	25,2%	27,0%

Observing the value added, as the most important economic variable, we note that the contribution of foreign affiliates in Montenegro in generating this value is at the level of the average countries analysed. The largest contribution to the creation of value added in the host countries was given by foreign affiliates in Serbia with a share of 32,4%, then in Montenegro 27,0%, Croatia 25,3%, while the lowest contribution was given to foreign affiliates in Bosnia and Herzegovina, which contributed 24,6% in the creation of value-added.

Therefore, these data indicate that foreign affiliates in the economies of Croatia, Serbia, Bosnia and Herzegovina and Montenegro play an important role in their economies. They should pay special attention to the development of FATS statistics, especially those countries where these statistics are at the beginning, in order to better determine their place in the international division of labour. We also noted that these countries have developed mutually beneficial relations through their affiliates, which in the future need to be improved.

Thus, in Montenegro, as in other countries of the region, transnational companies are very active economic actors, but their potential is far from their full utilisation. Due to the proven importance of applying this new statistical instrument, or FATS, in the pursuit of an adequate foreign trade policy, it should continue to work on its development.

## REFERENCES

- Agencija za statistiku Bosne i Hercegovine, (2015). *Strukturne poslovne statistike, Saopštenja, Strane podružnice u Bosni i Hercegovini (Inward FATS) za 2012. godinu*, Sarajevo, str.3
- Bjelić, P., Trošić-Jelisavac, S. & Petrović-Popović, I. (2010). *Savremena međunarodna trgovina*, str.294, Beograd.
- Državni zavod za statistiku Republike Hrvatske, (2017). *Priopćenje broj 15.3.1*, Zagreb
- Državni zavod za statistiku Republike Hrvatske, (2016). *Priopćenje broj 15.3.1*, Zagreb

- Državni zavod za statistiku Republike Hrvatske, (2014). *Mjesečno statističko izvješće broj 8/2014*, Zagreb
- Republički zavod za statistiku, (2017). *Strukturne poslovne statistike, Strane podružnice u Republici Srbiji (inward FATS)*, Beograd
- Zavod za statistiku Crne Gore, (2017). *Statistika stranih filijala*, Podgorica
- Zavod za statistiku Crne Gore, (2017). *Saopštenje broj 128, Broj i struktura poslovnih subjekata u stranom vlasništvu u Crnoj Gori u 2016. godini*, Podgorica
- Zavod za statistiku Crne Gore, (2014). *Strukturalna biznis statistika, Poslovanje preduzeća u Crnoj Gori u 2013. godini*, Podgorica
- UNCTADSTAT, (2018). *Foreign direct investment: inward and outward flows and stock, Annual*, New York and Geneva

## **A Comparative Analysis of Corporate Identity of Banks in Montenegro**

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### **Abstract**

The focus of banking operations is placed on the client on whose loyalty the bank's operations depend. The aim is to point out that there is a direct link between the bank's corporate identity and the client's loyalty, which directly affects the bank's operations and its competitive advantage in the financial market. The theoretical part defines the concept of corporate identity and image, its elements and the factors affecting it, the relationship between corporate identity and the client, the significance of corporate identity and its impact on the bank's operations and creation of competitive advantage. The empirical part deals with the analysis of the corporate identity of banks in Montenegro. Based on the collected data, an analysis of the factual situation will be carried out, the conclusions will be drawn, and recommendations will be given for improving the corporate identity. The corporate identity of banks represents a serious comparative advantage in the market, since the banks that apply it send out a clear message about them to their clients which provides the client with the security that there is a full service behind the corporate identity of a particular bank. The contribution of the paper is reflected in the fact that a cross-section will be made through the analysis as to how the banks have created their corporate identity in Montenegro. An overview of the advantages and disadvantages in the previous practice of creating corporate identity will be given, and how it affects customer loyalty and business operations, generation of higher profit and competitive advantage of banks in Montenegro. Recommendations will be given as to what can be improved, which would have an impact on the reputation, and consequently on the generation of higher profit and creation of competitive advantage within the banking sector.

**Keywords:** Corporate identity, Client, Banking sector, Marketing, Strategic management

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## 1. INTRODUCTION

Corporate identity is a set of elements which represent the visual and acoustic images of the bank, as an expression of its personality. It is everything that business partners hear and see about the bank. One of the nice and easy-to-remember definitions of PR is that it is ideal that corporate identity is equal to the corporate image (this also applies to institutions and organisations which are not corporations, as well as to public figures). Moreover, what is, in fact, identity, and what is an image? In short, the identity of an organisation is what it essentially is, that is, these are beliefs, attitudes, culture. On the other hand, the image is a picture that the public has about an organisation or person. The identity and image of an organisation will be formed even though nothing is done.

Corporate identity is a "personality" of a company which is designed to be in line with the company's achievements and tailored to its goals. Typically, the company's visual identity is manifested through the branding and use of a trademark. In general, corporate identity is perceived through the company's name, logo, as well as through everyday things that comply with the company's business norms. These norms tell us to what extent corporate identity is applied in practice through colour palettes, special fonts, page layouts and other similar methods of maintaining visual continuity and brand recognition through its natural manifestation.

This paper aims to analyse the corporate identity of banks in Montenegro, the elements that constitute them and the factors that affect them. Also, we will consider to what extent and in what ways corporate identity influences the company's operations.

## 2. THEORETICAL FRAMEWORK

Contemporary trends in banking operations emphasise the increasing importance of personal interactions between bank clerks and clients in order to further develop their long-term business relationships. A good relationship with clients is an important factor not only for improving the bank's competitiveness but also for achieving appropriate business goals in a dynamic market game. The establishment of business relationships with clients should be a daily goal that is achieved through attention, respect, understanding, and empathy towards clients on the one hand, and the speed and accuracy of conducting transactions, on the other. The basic function of corporate identity is to enable companies (banks) to acquire, improve and maintain a competitive advantage. During the early development of marketing and PR, corporate identity was identified with the visual appearance of the company in public, i.e., with its logo or trademark. Today, it is generally accepted that the identity of a corporation represents its overall communication incorporated into the culture, beliefs, attitudes, employees, management, ownership, strategy.

Identifying the identity is, in fact, the identification of a corporation, and this is a process that begins from the top (management) of the corporation. The process runs from the top management towards employees and shareholders. There can be no harmony in

expressing identity if employees do not believe in this identity and if they do not show it in their everyday dealings with clients, suppliers, investors and public relations.

The aim of corporate identity is to understand the process as well as the most important elements in creating a corporate identity, as the basis for creating a strong brand. It should be understood that through the design of various products and promotional materials, a strong corporate identity is created on the market. The simplest answer to the question of why corporate identity is important is: to be unique on the market. This is the way you will reach clients and business partners, and their first encounter with you should create a good impression, no matter whether you meet personally or through your business card or a business deal or an intermediary. A good corporate identity is not created "overnight" and cannot be quickly adapted to changes in the environment. Corporate identity creates freedom, power, individuality and lifestyle, which can be summarized in two words: quality and professionalism. It is the responsibility of the corporation itself to cherish its identity and to try to make it as better as possible, as it contributes to a better picture of the corporation in public, that is, a better image.

The policy of corporate identity is a strategically planned and operationally implemented activity, oriented towards the interior and exterior of the bank, the appearance itself and behaviour which is realized through the following means: corporate design, promotional activities and PR communication of the bank, an attitude of the bank towards its collaborators, clients, competition, shareholders, and the norms of behaviour within the bank. Objectives of corporate identity can be different (Nikolas, 1996): improve communication within the bank; increase the perception of the public about the bank; increase the market value of shares; announce a new business strategy; create public reputation; determine the position on a global scale.

When we speak about the definition of the term "corporate identity" itself – it appeared in the 1950s literature by Walter Margelis to describe the activities aimed at creating a general image, that is, the position or identity of one corporation (Zelenović, 2015). Also, according to Bogdanović (2002), the term "corporate identity" includes the "understanding of the bank" and "ethics of the bank" and "culture of the bank". Corporate identity is also used to determine the communication and changes undertaken by the company (Nikolas, 1996), which comprises: its history, beliefs, philosophy, nature of technology, its property, people, personality of its managers, its ethical and cultural values, mission, vision, corporate philosophy, its strategy ([www.turbophoto.com](http://www.turbophoto.com), 10 April 2011). Moreover, Willie Olins defines corporate identity as a visual expression of what the organisation is, a reflection of its personality, and the basic values and direction in which it is moving (Zelenović, 2015). According to him, the organization responds to three questions by its visual identity: who you are, what you are doing and how you work, and the answers are provided through the contact with the public through annual statements, products and services, interior and exterior design, uniforms, trademark and company name, memorandum, logo (Trandafilović, 2006.)

The key elements and characteristics of the general corporate identity of the bank that they should include during their establishment refer to the name of the bank, the trademark - the logo of the bank, the slogan of the bank and the colour of the bank (Vunjak, Ćurčić & Kovačević, 2008). All of this is important because all of these elements must be integrated into one whole and must reflect one style in order to be recognisable in public, because only in this way can they leave a positive impression on potential clients which is interwoven with seriousness and clarity (Zelenović & Davidović, 2011)

### **3. RESEARCH METHODOLOGY**

The survey was conducted in the period July/August 2018. It included an analysis of the data available on the websites of banks operating in Montenegro, and a mini-survey was also conducted on how the users of banking services evaluate the basic elements of the corporate identity of the banks whose services they use.

The subject of the conducted explorative quantitative study is to determine how users of banking services evaluate the basic elements of the corporate identity of banks. The research aims to determine whether the elements of corporate identity are in line with the expectations of users of banking services and whether the basic elements of corporate identity influence the choice of the bank and the loyalty of clients.

The starting hypothesis reads: *Corporate identity of banks is important, but it is not a crucial factor when choosing a bank by clients.*

The survey was carried out in the territory of the municipalities of Podgorica, Bar, Nikšić and 300 respondents from these three cities participated in the survey. The survey was conducted in the field through personal interview. The sample was non-random, convenience. In addition to the basic demographic issues, the respondents were given the opportunity to evaluate the name, slogan, colour and trademark of the banks: NLB, Societe Generale Montenegro, CKB Bank, PRVA Bank and ERSTE Bank, with grades ranging from 1- the lowest rating to 5 - the highest rating, and to state whether corporate identity or any other factor is crucial for the selection of the bank whose services they most frequently use.

### **4. ANALYSIS OF CORPORATE IDENTITY OF BANKS IN MONTENEGRO**

A strong corporate brand results in better financial and business results raise the price of products, creates consumer loyalty and employee commitment, creates differentiation about competition, etc. When founding the bank, key elements and features of corporate identity are established: name, trademark-logo, slogan and colour of the bank. According to the data of the Central Bank, 15 licensed banks operating in the territory of Montenegro ([http://www.cb-cg.org/index.php?mn1=control\\_banaka&mn2=bankarski\\_sistem&mn3=licencirane\\_banke](http://www.cb-cg.org/index.php?mn1=control_banaka&mn2=bankarski_sistem&mn3=licencirane_banke), accessed on 27 August 2018). An analysis of corporate identity, according to the key elements and characteristics, was made by the available data of the official websites of banks.

Through corporate identity, the answers to the following questions are provided: Who are we? Where are we going? What are we aiming at? What are our goals? As part



of the analysis of corporate identity, the mission and vision of certain banks operating in Montenegro were first presented in the paper.

**Crnogorska komercijalna banka** highlights in its mission its role in changing the Montenegrin economy and the value system of the entire Montenegrin society, bringing them closer to the European ones. Good cooperation with clients, recognition and understanding of market demands, the development of high-quality products, the implementation of new technology and new services, the application of international business standards, investment in knowledge and teamwork of employees are the foundations on which the bank builds and strengthens its position on the market. (<http://www.ckb.me/dobrodosli-u-ckb/dobrodosli-u-ckb.63.html>, date of access 30 June 2018)

**Societe Generale Bank Montenegro** emphasises the professionalism and quality of services based on the standards of Societe Generale Group. By placing the client in the centre of its activities, its mission is to be a significant support to citizens and the backbone for the development of the Montenegrin economy. A special emphasis is on corporate social responsibility, for which it was rewarded. The goal of the Bank is to continue to address the demands of clients and business partners in the best way, and to be at the forefront of new trends in Montenegrin banking. (<http://www.societegenerale.me/>, date of access 30 June 2018)

**Prva banka Crne Gore** lays emphasis on reliability, development of new values, provision of high-quality services at fair prices, investment in long-term partnerships with clients, the community, employees and shareholders, corporate social responsibility and support for projects of social importance which raise the quality of life in Montenegro. (<https://www.prvabankacg.com/>, date of access 30 June 2018)

The mission of **NLB Bank** is reflected in the responsibility, sincerity and credibility, cooperation, efficiency, monitoring of new trends, innovation and new methods of providing services. Understanding clients and their needs as well as taking care of their positive user experience, fulfilment of promises and exceeding the expectations of clients and other stakeholders, as well as open communication and cooperation are the basis of the work of this bank. (<https://www.nlb.me/me/nlb-banka/opste/publications-bank>, date of access 30 June 2018)

In its corporate philosophy, **ERSTE BANK** insists on corporate social responsibility and transparency of operations as an integral part of the long-term business strategy. It is a concept that encourages innovation, sustainable development, responsible risk management and cost reduction. In this way, it aims to achieve better business results, both for the clients, as well as for the bank and the community in which the bank operates. (<https://www.erstebank.me/>, date of access 30 June 2018)

The *name of the bank* should contain the word bank in itself and represent the core of its business in a closer and symbolic manner. Banks often have a geographical term or a certain territory in their name, such as Crnogorska banka, Lovćen banka, ZAPAD

banka, Beogradska banka, Vojvođanska banka, etc. The type of business that the bank is primarily involved in influences its name, for example, commercial, agricultural, mortgage, credit, savings, etc. Globalization has made the banks universal, which is reflected in their names, and thus the banks become universal, not bound by either territory or ethnic borders.

For the bank, *its trademark and logo* is of utmost importance because it serves to identify the bank, points to its style and distinguishes it from the competition, protects the bank from fraudulent substitution, which is at the same time the first and proper way for the bank to position itself in the consumer's mind. Since the trademark is the bearer of the entire visual identity, it is necessary at the very beginning to clearly define its meaning, the choice of colours and symbols, and the application. The design of the bank's logo is characterised by seriousness, high standard, value protection, the name of the bank in focus, formal fonts, standard colours. (Zelenović & Davidović, 2011). The logo of the banks operating in Montenegro is characterised by a harmonious whole, a pronounced name, a legible font, a quick recognition, all of which are the characteristics of a quality logo.

The *bank's slogan* should draw the attention of consumers, encourage action and convey the basic idea of a propaganda message. It is better to be without a slogan than to have a slogan that does not say anything, which is not simple and is hard to remember. (Zelenović & Davidović, 2011). The slogans of the surveyed domestic banks most often reflect the specific features in market operations as well as the level of development of the banking market, which can be seen through the following examples:

- Societe Generale Montenegro - "The more hands, the greater the power."
- Crnogorska komercijalna banka – "We trust each other."
- NLB Montenegro banka – "I know why."
- Erste Bank – "And which is your bank?"
- Prva banka – "The first bank in Montenegro established in 1901."

The choice of *colour* is of utmost importance for the bank for its "silent" communication with clients. The role of colour is to impress, motivate and animate the potential buyer, prompt the purchase. It is clear that the logo in a certain colour cannot in itself be a reason for the success or failure of the banking institution, but it is evident that it is the essential element of corporate identity, and thus the market positioning of the bank. The surveyed banks operating in Montenegro use the blue colour most often in their logo, a combination of blue and white, a combination of blue and red, blue and green (NLB Bank, ERSTE Bank, Nova Banka), then red, a combination of red and black, red, white and grey (Prva banka, Societe Generale banka), green (Crnogorska komercijalna banka).

#### 4.1. Results of the conducted quantitative exploratory research

By the conducted survey, the average rating of the basic elements of the corporate identity of the following banks was determined: NLB, Societe Generale Montenegro, Crnogorska Komercijalna banka, Prva banka and ERSTE banka. The survey involved 300 respondents, of whom 60% (180 respondents) were female, and 40% (120 respondents) were male. Respondents were classified into 5 age groups, namely, the respondents from 18 to 28 years of age make up 20% of the sample (or 60 respondents), the 29-38 age group makes up 23.33% of the sample (or 70 respondents), the 39-48 age group makes up 32.67% (or 98 respondents) of the sample, the respondents aged 49-58 make up 17.33% (52 respondents) of the sample, while the smallest percentage of respondents were 59 years of age and over, only 6.67% or 20 respondents. The respondents in work constituted 63.33% of the sample (190 respondents), there was 34.67% of the unemployed (104 respondents), while 2% (6 respondents) of the surveyed respondents were pensioners. 80% of respondents use the services of two banks.

Table 1 shows the results of the conducted survey — the average grades for the name range from 4 to 5, which is a high grade. The slogan of Societe Generale Montenegro Bank achieved the highest grade 5 (The more hands, the greater the power), while the slogan of Prva banka achieved the lowest grade 2. The respondents have a neutral opinion about the slogan of NLB and Crnogorska komercijalna banka. The slogan of ERSTE Bank was also rated with a high grade of 4.2. As for the average grades for the colour, the lowest is for Societe Generale Montenegro - 3.5 and the highest, maximum grade 5 is for Crnogorska komercijalna banka, while for other banks the grades are almost the same from 4.1 to 4.4. The logo of Societe Generale Montenegro was rated with a maximum grade 5, a grade of 4.3 is for Crnogorska komercijalna banka, 4 for NLB and PRVA banka, while the logo of ERSTE bank was rated with an average grade of 3. We can conclude that Societe Generale Montenegro received the highest grades for two elements of corporate identity, that is, for the slogan and logo, while Crnogorska komercijalna banka received two highest grades, namely for the name and colour.

**Table 1** Assessment of the Elements of Corporate Identity of Banks

BANK	NAME	SLOGAN	COLOUR	LOGO
NLB	4	3,2	4	4
<i>Societe Generale Montenegro</i>	4,7	5	3,5	5
<i>Crnogorska komercijalna banka</i>	5	3,3	5	4,3
<i>PRVA Banka</i>	4,5	2	4,4	4
<i>ERSTE banka</i>	4,6	4,2	4,1	3

**Source:** The survey conducted by authors

When mentioning the bank, corporate identity is not the focus of attention for almost all respondents, since 95% of the respondents said that the basic elements of corporate identity were not of special importance to them when choosing the bank itself, but that the level of the interest rate and the granted discounts that banks offer play a

key role in their choice and loyalty towards a specific bank. In general, most of our population is burdened with loan debt, which means that it is the interest rate that is given priority in the choice of banking services. Based on the abovementioned, we can conclude that the hypothesis has been proved through the results of the processed survey data.

## 5. CONCLUSION

The identity of a corporation represents its overall communication embodied in the culture, beliefs, attitudes, employees, management, ownership, strategy. Corporate identity should be aligned with the company's achievements and tailored to its goals. Successful communication with the client, competent personnel and modern information and communication technology are three key elements of the bank's marketing strategy. Managers need to be aware of the fact that personal clients are governed by the level of interest rates on term savings or favourable credit terms, while corporate clients choose the bank primarily by the ability of the bank to meet their financial needs. Based on the analysis of the available data, it can be concluded that banks, in defining their business strategy, start from the client, their needs and requirements. It is recommended that customer relationships are built on good cooperation, professionalism and efficiency. To create a good image, it is also important to invest in employees, team work and care for other stakeholders, as well as the corporate social responsibility of the bank towards the community in which it operates. Based on the empirical research, a conclusion has been drawn that confirms the hypothesis that the corporate identity of banks is important, but is not a crucial factor in choosing a bank by clients. Although the basic elements of the corporate identity of banks have been rated with high average grades, the crucial factor for the loyalty of clients on the Montenegrin banking market is the level of interest rates and granted discounts offered by banks. The reason lies in the fact that the majority of our population is burdened with loan debt, so the interest rate is a priority in the choice of a bank. A recommendation for banks is that, besides the well-designed name, trademark and slogan which the client can identify with, the fair price and a high-quality product and service that the bank efficiently delivers to the client is also a necessary precondition for successful operations and retention of existing clients, as well as for attracting new ones. Only in this way is it possible to generate higher profit and competitive advantage of the bank and build a good image and reputation.

## REFERENCES

- Babić-Hodović, V. (2012). *Marketing u bankarstvu*, Sarajevo, Ekonomski fakultet
- Bogdanović, M. (2002). Marketing concept u funkciji poboljšanja korporativnog identiteta banaka *Ekonomika*, str. 202.
- Farquhar, D.J. & Meidan, A. (2010). *Marketing Financial Services - second edition*, Palgrave Macmillan,
- Kotler, P. (1999). *Upravljanje marketingom*, Zagreb, Informatory

- Krstić, B. & Stanković, Lj. (2006). Međuzavisnost poslovnog ugleda i konkurentske prednosti banke, *Ekonomске teme br.4*, str.63
- Maričić, B. (2005). Ponašanje potrošača, Beograd, Čugura print,
- Nikolas, I. (1996). Korporacijski imidž, Beograd CLIO
- Rajola, F. (2004). *Customer Marketing Management, Organizational I Technological Perspecitve*, New York, USA
- Tradafilović, I. (2006). *Ime, logo, boja: kako kreirati uspješan vizuelni identitet*, Beograd, BIGZ Publishing
- Vunjak, N., Ćurčić, U. & Kovačević, LJ. (2008). *Korporativno i investiciono bankarstvo*, Ekonomski fakultet Subotica, Bečej Proleter a.d.
- Zelenović, V. & Davidović, M. (2011). Korporativni identitet banaka kao bitna odrednica bankarskog poslovanja, Saopštenje sa međunarodnog skupa EMC 2011, Zrenjanin, str.221-226
- Zelenović, V. (2012). *Marketing u bankarstvu*, Ekonomski fakultet Subotica, Bečej, Proleter a.d.
- Zelenović, V. (2015). *Marketing u bankarstvu, drugo izmijenjeno I dopunjeno izdanje*, Ekonomski fakultet Subotica, Bečej, Proleter a.d.
- <http://www.cb-cg.org/>
- <http://www.societegenerale.me/>
- <https://www.erstebank.me/>
- <https://www.prvabankacg.com/>
- [www.ckb.me](http://www.ckb.me)
- [www.nlb.me](http://www.nlb.me)
- [www.turbophoto.com](http://www.turbophoto.com), 10.04.2011.

## Credit Cycle in Bulgaria

Kamelia Assenova<sup>1</sup>

### Abstract

The banks play a special role in the financial system. Some economic subjects have less access to other forms of funding than to banks. By the special bank's role for part of the borrowers, credit growth changes the investments and the consumption and stimulates economic growth in the country. During the crisis in 2008 credit cycle in Bulgaria characterises with: a gradual decline of the lending rate in 2008 from 24.38% in the first quarter to 2.27% in the fourth quarter for business and lower for a household loan to 5.79% at the end of 2009. For the period 2010-2015, households' trends are also descending, but with lower fluctuations - from - 0.81% at the end of 2010 to - 1.79% at the end of June 2015.

Different factors related to the supply and demand of credit influence of their amount. Higher domestic consumption and investment depends on the lending, and therefore it could be actively used as an instrument for stimulating economic growth.

**Keywords:** Banking, Credit, Supply and demand for credit

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The banks play a special role in the financial system. Some economic subjects have less access to other forms of funding than to banks. The increase of money supply leads to higher bank reserves and expanding the bank lending. By the special bank's role for part of the borrowers, credit growth changes the investments and the consumption and stimulates economic growth in the country.

The expansion of lending in Bulgaria could be explained in different aspects - as a positive phenomenon at the macroeconomic level, affecting economic growth. Negatively at the macroeconomic level expansion of credit expressed by increasing the negative current account balance and creating conditions for the development of inflationary processes. At the micro level, the negative impact due to increased risk. It affects the stability of the banking system.

### **1. DATA ANALYSIS FOR THE PERIOD 2003 - 2008**

For the period 2003 - 2008 lending constantly increases. The reasons for the credit expansion in this period in Bulgaria are directly related to some specific conditions: higher domestic demand due to the economic situation after the introduction of the Currency Board in July 1997. In general, it is characterised by continued increasing of GDP, sustained macroeconomic stability and low inflation. At the same time, financial stability and bank confidence in the monetary institution - the Bulgarian National Bank (BNB) was achieved. Other reasons for post-crisis financial stability are:

- Restored confidence in the banking system due to the restructuring of most banks. They became private, with foreign owners. Although the banking market is relatively small (with a large number of banks), bank assets dynamically growth;
- Government interference in the financial sector was adequate. Overall, the regulation and financial supervision established has been positive for the period.

The credit growth for period 2003-2008 depends on additional factors. Together with the macroeconomic stability and the privatisation of the banking sector can be mentioned:

- access to international capital markets;
- low-interest rates on world markets;
- the decrease in the cost of the resource - as a consequence of the repeated increase in the country's credit rating;
- struggle to increase the market share of every Commercial bank;
- higher savings;
- reducing risk in the real economy due to the improved information environment;

- needs for investment in new technology and equipment due to the strong competition on the European market;
- increasing demand for consumer goods - as a result of higher wages;
- reduced need for public sector loans - if the budget needs to borrow, it would lead to increased interest rates of loans in the country.

Overall economic and financial stability leads to strong increasing of lending. On the other hand, improved economic conditions predetermined the growth of foreign cash flows, mainly coming from foreign banks in Bulgaria. It has led to the strong need to find ways for the investment of accumulated funds of Commercial banks. Following tendencies have observed:

- continued and very dynamic growth of lending by commercial banks, which in the fourth quarter of 2001 exceeded 32 % (at the end of the period compared to the end of the previous year) and at the end of the fourth quarter of 2004 was 48.58 % and reached in the first quarter of 2005 to 73.09%, restricted in 2006 and 2007, a new peak in the first quarter of 2008 and a rapid decrease in the growth rate in 2009 to 3.59 % at the end of the second quarter;
- Change in the structure of the borrowers in the period 2000 - 2001 due to the change of ownership and the greater efficiency of the private companies;
- Commercial banks investment in foreign assets in 2000-2001 and follows the decreasing of them in 2002-2003, related to the increase of lending on the local market;
- Loan expansion, which started in 2003, and reflects the need for long-term capital to upgrade technology and to buy household goods for long-term use. The increased share of long-term loans could be explained by the increased confidence between creditors and borrowers and the reduction of risk;
- The collapse of foreign liabilities of local banks, which started in 2004 and peaked in 2006, slowing growth in lending;
- Lending in services is the highest share compared with all other sectors of the economy.



**Table 1.** Annual Growth Rate of Bank Credit for the Period 2003 - 2008 quarterly

	I 2003	II 2003	III 2003	IV 2003
Credit for non- government sector, including, %	45.68	52.05	47.05	48.31
- for non- financial institutions, %	42.88	47.90	38.32	37.74
- for households,%	54.30	68.44	73.02	80.65

	I 2004	II 2004	III 2004	IV 2004
Credit for non- government sector, including, %	52.32	47.79	49.27	48.58
- for non- financial institutions, %	41.73	35.05	38.64	38.00
- for households,%	84.55	79.60	76.41	74.82

	I 2005	II 2005	III 2005	IV 2005
Credit for non- government sector, including, %	73.09	41.80	35.93	32.39
- for non- financial institutions, %	69.62	32.91	25.93	22.26
- for households,%	81.83	72.18	63.51	58.39

	I 2006	II 2006	III 2006	IV 2006
Credit for non- government sector, including, %	5.59	24.22	23.63	24.61
- for non- financial institutions, %	- 7.49	14.21	17.31	19.42
- for households,%	39.65	38.65	32.58	30.55

	I 2007	II 2007	III 2007	IV 2007
Credit for non- government sector, including, %	36.6	47.8	55.9	62.5
- for non- financial institutions, %-	30.1	47.5	57.8	67.1
- for households,%	37.6	38.6	48.3	52.4

	I 2008	II 2008	III 2008	IV 2008
Credit for non- government sector, including,	59.61	54.63	49.81	38.45
- for non- financial institutions, %	64.65	58.07	52.89	39.87
- for households,%	51.96	49.18	44.85	36.14

**Source:** BNB and own calculations

## 2. DATA ANALYSIS FOR THE PERIOD 2009 - 2015

The conditions of the crisis in 2008 include a strong decline in the lending rate in 2008 from 39.87% in the first quarter to 2.27% in the fourth quarter for business and lower household loan contraction to 5.79% at the end of 2009. It is due to two types of bank operations. Concerning liabilities: The lower deposit base and the parent banks withdraw of the non-deposit attracted funds due to liquidity problems in all countries. According to assets the reasons are the following:

- For businesses - increasing risk in the economy makes banks more cautious considering credit projects. Additionally, increasing of the share of "bad" credits is contributing to it;
- For business - within a bank channel, the period of crisis makes firms less vulnerable to risk. Moreover, the crisis has deteriorated their cash inflows, increased their indebtedness, and the short-term cash flow balancing requires usage of different forms of credit;
- For business, on the other hand, the market conditions and level of aggregate demand has reduced the need for new investments in real assets and the use of loans to finance them;
- For business - the waiting economic results also shrink demand for credit;
- For households - the rise in unemployment immediately after the 2008 crisis and the keeping of income on the same level led to a decline in demand for credit.

For the period 2010-2015, lending shows the following trends:

- For businesses - there is a low increase of the loan to 2.42% at the end of 2010, 5.43% - in 2011, approximately the same (4.99%) - in 2012. In 2013 there is a strong contraction of corporate lending, with an increase of 0.07% at the end of the year. It is due to the slow and difficult recovery from the crisis and the still shrunken markets of the Bulgarian exports. The risk is kept at a high level, which makes both companies and banks cautious. In 2014, as a result of problems in the banking system and in particular in one of the largest banks in the middle of the year, business lending sharply declined by 11.62% at the end of the year compared to the same moment of the previous year. This trend preserved in 2015.
- For households - decreasing of the loan for the period 2010-2015, but with lower fluctuations - from minus 0.81% at the end of 2010 to minus 1.79% at the end of June 2015.

**Table 2.** The annual growth rate of bank credit for the period 2009-2015 quarterly

	I 2009	II 2009	III 2009	IV 2009
Credit for non- government sector, including, %	24.53	11.19	5.05	3.59
- for non- financial institutions, %	24.38	10.09	3.70	2.27
- for households,%	24.79	13.05	7.32	5.79

	I 2010	II 2010	III 2010	IV 2010
Credit for non- government sector, including, %	2.34	2.16	1.38	1.19
- for non- financial institutions, %	1.12	1.24	1.77	2.42
- for households,%	4.36	3.66	0.76	-0.81

	I 2011	II 2011	III 2011	IV 2011
Credit for non- government sector, including, %	1.56	2.32	2.49	3.23
- for non- financial institutions, %	2.98	4.11	4.14	5.43
- for households,%	-0.71	-0.57	-0.22	-0.44

	I 2012	II 2012	III 2012	IV 2012
Credit for non- government sector, including, %	3.11	3.76	3.23	2.84
- for non- financial institutions, %	5.56	6.62	5.98	4.99
- for households,%	-1.00	-1.09	-1.52	-0.97

	I 2013	II 2013	III 2013	IV 2013
Credit for non- government sector, including, %	2.34	0.99	0.68	-0.01
- for non- financial institutions, %-	4.38	2.04	1.37	0.07
- for households,%	-1.30	-0.91	-0.60	-0.16

	I 2014	II 2014	III 2014	IV 2014
Credit for non- government sector, including,	1.22	2.10	1.98	-8.15
- for non- financial institutions, %	1.70	3.07	2.97	-11.62
- for households,%	0.33	0.28	0.10	-1.64

	I 2015	II 2015
Credit for non- government sector, including,	-9.20	-10.17
- for non- financial institutions, %	-13.07	-14.51
- for households,%	-1.79	-1.79

**Source:** BNB and own calculation

### 3. DEMAND AND SUPPLY OF CREDIT – FACTOR ANALYZE

Positive or negative changes related to the supply and demand of credit determine their amount. The changes in the credit cycle could be divided into several stages over the research period: The first stage is before the country's accession to EU in 2007. At this stage, the following factors have a strong influence on demand:

- expected earnings growth, higher permanent income (according to Friedman's monetary theory) encourages increased consumer lending;
- the rise of real estate prices increases the demand for mortgage loans;
- future participation in the European common market implies new investments in real assets to improve the competitiveness of the local economy;
- the higher regulatory European requirements (for example - environmental) requires additional investments to be financed with credit.

The second stage is after accession and before the crisis in 2008. At this stage the demand depends on the following factors:

- Economic growth. Large numbers of projects with high returns are available, which allows them to be financed at a higher price of the borrowed capital;
- Rising property prices due to increased demand. It is driven by the level of savings in the country. Another reason is the rate of return by real estate investment. The part of the demand is formed by non-residents attracted to the local market by the high return on their investments;
- sharp increase of earnings;
- low real interest rate.

The factors affect the supply of credit during the second stage is:

- inflow from parent banks;
- increasing local savings due to good economic activity;
- low "price" of attracted funds;
- low level of debt in different sectors;

- positive economic results.

The third stage of the credit cycle is after the 2008 crisis. During this period, the factors affecting demand are:

- income falls or keeps on the same level in real terms;
- real estate prices have fallen;
- increasing of BGN equivalence in foreign currency loans.

The factors influencing the supply are:

- recovering part of the deposits lost by banks during the crisis;
- reducing risk in the economy;
- Economic activity slowly recovers. The return of projects is increased, and therefore companies tend to be financed at a higher cost of the loan;
- positive outlook for income growth and a propensity for consumption, which leads to an increased willingness to use the loan.

Credit data show certain risks for changes of supply and of demand, as reflected in:

- Problem with "bad" credits as well as the solvency of borrowers. This risk can be minimised by upgrading the credit risk assessment system and methods. It could be achieved by introducing a centralised risk assessment system by issuing credit score for each borrower. At the same time, risk assessment methods have to become much more objective and unified.
- An accounting of lost and the separation of sustainable legal provisions requires good creditworthiness of borrowers before a credit decision is taken and a more accurate assessment of the liquidity of the collateral offered.
- Increased number of partially secured loans. Often, by the lack of first-class collateral by borrowers, banks create a special pledge of commodities, output and uncompleted production, as well as customer receivables, which in most cases are low-liquid assets. This loss for the bank by collateral due to the poorly developed secondary market for more specific types of production and the uncompleted production, as well as the large amount of non-performing receivables whose quality is not always analysed and taken into account when assessing the collateral offered. The bank lending to risky customers, due to the existence of "good" collateral, as well as lending to solvent customers with "bad" collateral, may worsen the bank loan portfolio. Each bank must ensure that the creditworthiness of the client is consistent with the quality of collateral offered to minimise the risk of default on repayment of the loan.
- Some banks increase the growth rate of lending to firms with negative development trends. It needs to be taken into account when assessing the credit

policy. The payment of commissions and interest by the borrower provides bank income. In some cases, in order to alleviate the monthly repayment, long-term loans are granted for small monthly amounts, and additionally, they use for short-term purposes to cover operating costs.

- With a relatively small number of highly profitable companies, the commercial banks can be increased the share of overdraft to finance the working capital. It will considerably reduce the credit risk and will help to improve the financial situation of the companies. By overdraft do not imply high profitability for banks because the fund's finance purchase of goods and materials do not bring the income. The payments of the principal and the interest come after the sales of goods and production.
- Relatively few qualitative investment projects with a high rate of return apply for bank investment credits.
- Own funds by lending - the next problem for obtaining loans in Bulgaria is a very low amount of own funds (an essential condition for granting an investment bank loan). The companies have a low capital base. The accumulated funds include the obligations to banks and the same towards suppliers, staff, budget, National Social Security Institute, National Health Insurance Fund, etc. If they invest more own funds in their projects, more trust will gain in their creditors.
- Lending and capital adequacy. Many companies as borrowers for promising investment projects and at the same time reported a loss for the previous year and uncovered losses from the previous few years. Except several single cases, Bulgarian entrepreneurs do not agree to recapitalise their company by attracting new partners or new major shareholders, who would have contributed additional capital.
- The reasons for the insufficient number and size of loans servicing the Bulgarian economy is the relatively unsatisfactory bank management and the insufficient knowledge of the bank credit officers and senior bank managers for the competitiveness in the different sectors and sub-branches of small and medium-sized companies.
- The export activity of Bulgarian companies - the small and medium-sized companies have relatively weak exports. This problem is possible to be resolved by setting up specialised banks and funds. They could grant credits and issue guarantees or cover differences between market and preferential interest rates of loans to Bulgarian producers, which have an export orientation. Priority should be given to the possibility of obtaining financial resources from international financial markets by the support of providing state guarantees or by issuing government-guaranteed bonds. In the same time, Bulgarian banks for stimulating the export need to accumulate enough resources.

- Capital market and credit level - Bulgarian capital market is undeveloped. The relationship between bank and bond lending and the absence of the latter (with a few exceptions) is one of the most significant reasons for the credit restrictions of banks on the real economy. In order to satisfy the needs of a mortgage loan in Bulgaria and the greater implementation of the Mortgage Bonds Act, adopted in 2000, should be created with public sources at least one mortgage bank. This mortgage bank could use with long-term resources through the issue of mortgage-backed real estate bonds.
- Rapid credit growth in the banking system may also trigger shocks by worsening macroeconomic stability and loan quality. The rising of the current account deficit (directly related to the credit boom) along with inflationary pressures make the economy vulnerable to macroeconomic shocks. For example, a sudden turnaround in the direction of foreign capital or some other "shock" would lead to severe consequences - a rise in interest rates, a slowdown in growth, a decline in asset prices.

#### 4. CONCLUSION

The banks play a special role in the financial system. Some economic actors have less access to other forms of funding than to banks. For the period 2003-2008 the lending constantly increases. The conditions of the crisis in 2008 include a gradual decline in the lending rate in 2008 from 39.87% in the first quarter to 2.27% in the fourth quarter for business and lower for a household loan to 5.79% at the end of 2009. For the period 2010-2015, households' trends are also descending, but with lower fluctuations - from minus 0.81% at the end of 2010 to minus 1.79% at the end of June 2015.

Different factors related to the supply and demand of credit influence of their amount. Higher domestic consumption and investments depend on the lending and there for it could be actively used as an instrument for stimulating of economic growth.

#### REFERENCES

Reports of the BNB, 2003 - 2015, Sofia

Assenova, K. (2009). Lending in Bulgaria - how and how many, University Publishing House "Stopanstvo", Sofia

Bernanke, B. & Blinder, A. (1990). The Federal Funds Rate and the Channels of Monetary Transmissions, NBER

Bhaumik, S. K. (2001). Bulgaria: Legacy, Transition and Soft Underbelly of Macroeconomic Stability, Center for New and Emerging Markets, London Business School, London, UK

Cecchetti, S. & Stefan K. (2001), Financial Structure, Macroeconomic Stability and Monetary Policy, NBER

- Clarida, R.; Jordi G. & Gertler, M. (1997), Monetary policy rules in practice: some international evidence, NBER
- Enoch, C. & Gulde, M. A. (1997). Making a Currency Board Operational, IMF
- Friedman, B. (2000), The role of interest rate in Federal Reserve Policymaking, NBER
- Friedman, B. (2000), Monetary policy, NBER
- Hanke, S. (2000). The Disregard for Currency Board Realities, *Cato Journal*, Vol. No1
- Kerr, W. & King, R. (1996). Limits on Interest Rate Rules in the ISLM Model, FRB of Richmond, *Economic Quarterly*, Volume 82/2
- Kirchgeassner, G. & Savioz, M. (2001). Monetary Policy and Prognoses for GDP Growth: An Empirical Investigation for the Federal Republic of Germany, *German Economic Review*, Vol. 2, Issue 4
- McCallum, B. (1999). Recent developments in monetary policy analysis: The roles of theory and evidence, NBER
- Mishkin, F. & Estrella, A. (1995). The term structure of interest rates and its role in Monetary policy for the European Central Bank, NBER
- Mishkin, F. (1996). The channels of monetary transmission: Lessons for monetary policy, NBER
- Mishkin, F. (1999). International Experiences with Different Monetary Policy Regimes, NBER
- Mishkin, F. (2001). Financial policies and prevention of financial crises in emerging market countries, NBER
- Romer, C. & Romer, D. (1989). Does Monetary Policy Matter? A new test in the spirit of Friedman and Schwarz, NBER
- Romer, D. (1999). Short Run Fluctuations, University of California
- Romer, D. (2000). Keynesian macroeconomics without the LM-curve, NBER
- Taylor, J. (1998). A Historical Analysis of Monetary Policy Rules, NBER



## **Psychosocial Risk Factors for and Effects on Women in the Workplace<sup>1</sup>**

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### **Abstract**

Historically, women have faced difficulties in entering and remaining in sustainable employment. Women are generally employed in low-status jobs and working for a lower wage than male employees performing the same tasks. Due to the physiological differences between men and women, the health risks factors that female employees face in their working lives are also notably different.

There are many risk factors in the physical, chemical, biological, ergonomic, and psychosocial aspects of working life. Women workers, like male employees, are negatively affected by these risks. Among these risk factors, psychosocial risks have a particularly negative effect on the health, productivity, and work-peace of female employees, which has a compounding effect on the workplace and society at-large.

In this study, we first discuss the psychosocial risk factors that emerged within the specific structure of the working life. In the following stage, the questionnaire form was developed for obtaining the results of these risk factors that will affect women workers. According to the results of these questionnaires, new social policies based on the psychosocial risk factors for women in their working lives and the consequential impact on families and society will be developed.

**Keywords:** Occupational health and safety, Occupational accident, Occupational disease, psychosocial factors, women employees.

### **1. INTRODUCTION**

The process of industrialisation and technological innovations and the consequential changes in working methods have a negative impact on the physical and psychological health of workers while reducing their earnings or revenues. (Kılıkış, 2014: 3; Akarsu vd., 2013; Güzel-Okur-Caniklioglu, 2016: 4). Therefore, the protection of the worker's health throughout his or her working life is of great importance. (Sarıbay Öztürk, 2015: 1).

The issue of psychological health at work is related to occupational health and safety. In the literature, the relevant studies on work-family conflicts, mobbing dimensions, health and employment problems, and occupational stress and burnout are

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examined. Occupational diseases caused by psychosocial diseases arise because of the risks encountered in the workplace and adversely affect the health, peace, and productivity of workers. In modern times, with an increasing workload, faster work tempo, and longer working days, the health of employees is adversely affected. This situation leads to a decrease in employees' commitment to their work and continuity and productivity. Businesses are also negatively affected by this situation to the extent that profitability decreases with the decrease in productivity of employees (Vatansever: 2014: 118). Women in the workplace, especially pregnant women, new mothers, and women who are breastfeeding, are exposed to different physical, chemical, biological, ergonomic, and psychosocial risks compared to other employees and are more affected by these risks than men. In this study, the aim is to develop effective protection measures for female employees by examining the psychosocial risk factors and problems of women workers in their occupational lives that may cause occupational accidents and diseases.

## **2. THE DIFFICULTIES OF WOMEN IN WORKING LIFE**

Many women have the responsibilities of being a spouse and mother, and in addition to those duties, whether perceived physically or spiritually, some women also take on the role of caregiver to patients, the elderly, and individuals with disabilities. The burden of women becomes even greater when in the context of difficulties in working life and difficulties. In the present century, women face many problems that arise from demanding working conditions, just because they are women. They are exposed to discriminatory employment policies compared to men regarding recruitment, promotion, termination, and remuneration. Exposure to long working hours, low wages, and uninsured jobs can be cited, among other problems (Durmaz, 2016: 51-52; Özzyer ve Azizoğlu, 2014, s. 96; Güler, 2015: 121; Vatansever, 2014:118). In this study, by determining the psychosocial risks encountered by the female labour force, suggestions are made for the elimination of these difficulties experienced by women who constitute a large part of working life in society.

## **3. RISK CONCEPT**

According to the World Health Organisation (WHO), the risk is the possibility of a negative result (Özkılıç, 2014: 19-20; Ocaktan, 2014: 24). According to International Labour Organisation (ILO), risk defines "likelihood of occurrence of undesirable events in a given period or conditions, frequency and probability according to environmental conditions" (ILO, 2011: 2). ILO defines as psychosocial risks: "business satisfaction, business organisation and management, environmental and organisational conditions, workers' expertise and the interaction between requirements."<sup>4</sup>

When examining the risks associated with working life, psychosocial risk factors are generally ignored. The events that have affected workers' mental health, such as

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<sup>4</sup>[http://www.ilo.org/safework/areasofwork/workplace-health-promotion-and-wellbeing/WCMS\\_108557/lang--en/index.htm](http://www.ilo.org/safework/areasofwork/workplace-health-promotion-and-wellbeing/WCMS_108557/lang--en/index.htm) (Erişim Tarihi: 08.05.2017).

stress, occupational burnout, sexual and psychological harassment, and violence over the years have started to attract the attention of public authorities, enterprises, and trade unions (Kandemir, 2017: 2).

As indicated, there are many psychosocial risk factors that affect the psychological balance of workers and disrupt their health, such as job insecurity, work overload, working styles, the working environment, working time, security levels, interpersonal relations, job roles, wages, shifts, flexibility of work, and mobbing exposure (Akyalçın, 2016: 142-143; İlhan, 2013), and female employees are more affected by psychosocial risks than men.

#### **4. THE AIM AND IMPORTANCE OF THE RESEARCH**

The main purpose of this study is to investigate the psychosocial risk factors and performance of female workers to determine the factors impact regarding working environment and occupational accidents and diseases. In this context, you should not pose a risk in the study so that the risk factors may be identified.

#### **5. METHOD OF RESEARCH**

The screening model was used in this study. The data were obtained by applying the questionnaire form prepared from the sample. This is a descriptive study in which a face-to-face questionnaire application is used as the data collection method. Considering the application dimensions and purpose of the study, 131 women who work in the health, textile, mining, and construction sectors forming the study and who agreed to participate in the research were included in the analysis.<sup>5</sup> The data were entered in the SPSS 15.0 statistical package program and analysed. Descriptive statistics are presented as median (min; max), frequency distribution, and percentage. Statistical significance was accepted as  $p < 0.05$ . It should be noted that there are significant loopholes in the relevant legislation in Turkey, and this work is expected to fill some of these gaps.

#### **6. FINDINGS**

In this study, the distribution of characteristics such as age, marital status, education status and any physical disability are given. Then, the opinions of the employees on the workplace and occupational accidents and diseases, and the factors involved, including psychosocial risk factors, were discussed. Table 1 shows the participants' sector, age group, marital status, educational status, any physical disabilities, and total working time.

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<sup>5</sup> The study subject to the report consists of analyzing the data of the women in the study "The Relationship of Psychosocial Risk Factors with Occupational Accidents and Work-Related Diseases in the Workplace," which included 600 participants and 442 fully filled questionnaires.

**Table 1.** Sectors, Age Groups, Marital Status, Educational Status, and Total Working Time of the Participants

		Frequency (n)	Percent (%)
Age	25 yaş	22	16,4
	25-29	41	30,6
	30-34	24	17,9
	35-39	18	13,4
	40-45	14	10,4
	46-50	6	4,5
	50+	4	3,0
Marital Status	Married	82	61,2
	Single	48	35,8
Education Status	High school	41	30,6
	University	68	50,8
	Master	12	9,0
Working Time	Less than 1	39	29,1
	1-5 years	51	38,1
	5-10 years	14	10,4
	10 years+	25	18,7
Sector	Public Sector	44	32,8
	Private Sector	86	64,4

When Table 1 is examined, it is seen that the women who participated in the study were under the age of 34, married, and held either a high school diploma or an associate degree. There was a very high ratio of women employees in the private sector.

**Table 2.** Degree of Danger in the Participants' Work with Working Hours

		Frequency (n)	Percent (%)
Danger of Work	Less dangerous	71	53,0
	Dangerous	41	30,6
	Very dangerous	20	14,9
Shift Work	Yes	43	32,1
	No	57	42,5

<b>Daily Working Time</b>	8 hours and less	80	59,7
	8 hours+	47	35,1
<b>Overwork</b>	Less than 1	39	29,1
	1-5 years	51	38,1
	5-10 years	14	10,4
	10 years+	25	18,7
<b>Satisfaction with Working Conditions</b>	Yes	83	61,9
	No	36	26,9
<b>Satisfaction with Colleagues</b>		113	84,3
		7	5,2

**Table 3.** Opinions about Psychosocial Risk Factors

		<b>Frequency (n)</b>	<b>Percent (%)</b>
<b>I think my working period is long.</b>	Strongly agree	12	9,0
	Agree	56	41,8
	Undecided	8	6,0
	I do not agree	20	14,9
	I strongly agree	20	14,9
<b>I think my fee is insufficient.</b>	Strongly agree	19	14,2
	Agree	35	26,1
	Undecided	10	7,5
	I do not agree	20	14,9
	I strongly agree	36	26,9
<b>I think I have a lot of work.</b>	Strongly agree	17	12,7
	Agree	47	35,1
	Undecided	7	5,2
	I do not agree	21	15,7
	I strongly agree	27	20,1
<b>I think there is favouritism in my workplace.</b>	Strongly agree	17	12,7
	Agree	41	30,6
	Undecided	18	13,4

	I do not agree	25	18,7
	I strongly agree	15	11,2
<b>I think I work in an isolated workplace environment.</b>	Strongly agree	23	17,2
	Agree	52	38,8
	Undecided	16	11,9
	I do not agree	14	10,4
	I strongly agree	12	9,0
<b>I think I don't get enough support from my superiors at work.</b>	Strongly agree	22	16,4
	Agree	34	25,4
	Undecided	18	13,4
	I do not agree	26	19,4
	I strongly agree	18	13,4
<b>I think there is a lack of communication in my workplace.</b>	Strongly agree	19	14,2
	Agree	34	25,4
	Undecided	9	6,7
	I do not agree	40	29,9
	I strongly agree	18	13,4
<b>I think I work in a restless environment at work.</b>	Strongly agree	22	16,4
	Agree	41	30,6
	Undecided	15	11,2
	I do not agree	23	17,2
	I strongly agree	18	13,4
<b>I am exposed to verbal violence in my workplace.</b>	Strongly agree	20	14,9
	Agree	45	33,6
	Undecided	13	9,7
	I do not agree	18	13,4
	I strongly agree	23	17,2
<b>I suffer from physical violence at work.</b>	Strongly agree	40	29,9
	Agree	44	32,8
	Undecided	4	3,0
	I do not agree	17	12,7
	I strongly agree	14	10,4

<b>I suffer from psychological violence at work.</b>	Strongly agree	25	18,7
	Agree	36	26,9
	Undecided	13	9,7
	I do not agree	24	17,9
	I strongly agree	21	15,7
<b>I feel time pressure while performing my job.</b>	Strongly agree	23	17,2
	Agree	37	27,6
	Undecided	15	11,2
	I do not agree	20	14,9
	I strongly agree	23	17,2

**Table 4.** Physical, Mental, and Behavioural Problems Caused by Psychosocial Risk Factors

		Frequency (n)	Percent (%)
<b>Physical Problems</b>	Shortness of breath	131	97,8
	Rash/pruritus	132	98,5
	High blood pressure	133	99,3
	Heart palpitations	133	99,3
	Headaches	118	88,1
	Shoulder-neck pain	111	82,8
	Abdominal pain	117	87,3
	Nausea	130	97,0
	Ulcer	132	98,5
	Heart attack	129	96,3
	Sleeping disorder	134	100,0
<b>Psychological problems</b>	A feeling of constant	85	63,4
	Fatigue	103	76,9
	Unrest	113	84,3
	Difficulty in concentration	14	10,4
	Difficulty in decision	14	10,4
	Lack of energy/motivation	114	85,1
	Depression	124	92,5

	Mental breakdown	124	92,5
	Abstractedness	111	82,8
	Dissatisfaction	117	87,3
	Shortage of leisure time	114	85,1
	The feeling of not	128	95,5
	The feeling of not	119	88,8
<b>Behavioural Problems</b>	Postponing work while in	121	90,3
	Unable to focus on work	124	92,5
	Late for work	133	99,3
	Dealing with other jobs	133	99,3
	The reduced concentration	127	94,8
	Lack of self-confidence	3	2,2
	Productivity reduction	20	14,9
	Drug addiction	2	1,5
	Reduced attention	21	15,7
	Reduced job satisfaction	15	11,2
	Unhappiness	26	19,4
	Workaholism	8	6,0

## 7. CONCLUSION

The psychosocial risk factors that women are exposed to in the workplace are part of a comprehensive issue with legal, psychological, economic, and sociological dimensions. Although this issue is closely related to workers, employers, the economy, and society, it is observed that the literature has a very limited examination area. The individual living conditions and the working environment alongside the living environment are the main determinants of physical and mental health of workers. Exposure to physical, chemical, biological, ergonomic, and psychosocial risks negatively affects the physical and mental health of people. The work and workplace environment has a particular effect on the psychological health of employees. While a negative psychosocial work environment adversely affects the mental health of employees, the work done in a positive psychosocial environment contributes positively to the mental health of the employees. People who are exposed to psychosocial risks, such as depression, burnout, inability to focus, making more mistakes, drug and alcohol use, also experience physical problems, especially cardiovascular diseases, musculoskeletal system diseases, and many physical disorders. In this sense, workers, labour unions,



professional organisations, and human resource management should support our work on this issue.

Human resource management plays an important role in reducing psychosocial risks, and at this stage, managers should be well-informed about them, trained in communication and human relations, closely in touch with the problems of workers, and encouraged to participate in decisions related to management. Trade unions, which are among the hubs of working life, should also be informed about this issue. Further, the unions should give their members vocational training on the methods of combating the psychosocial risk factors that they will encounter in their working life and raise awareness among their members through conferences and symposiums. The only aim in reducing psychosocial risks should not be the training and development of employees; there should also be a focus on reducing the sources of psychosocial risks. There is a great deal of work taking place in our society against gender discrimination, mobbing, and harassment in all public institutions and organisations, local governments, the Ministry of Family, Labour, and Social Services, non-governmental organisations, the private sector, and print and visual media. Working in tandem, we may address psychosocial risk factors impacting women in the workplace especially, which only compound the other critical concerns facing our society.

## REFERENCES

- Akarsu, H., Ayan, B., Çakmak, E., Doğan, B., Boz Eravcı, D., Karaman, E. ve Koçak, D. (2013). Meslek Hastalıkları-ÇASGEM. Ankara: Özyurt Matbaacılık.
- Akyalçın, L. (2016). İş Kazası ve Meslek Hastalığının Getirdiği Maliyetler, İşveren ve İşveren Vekilinin İş Sağlığı ve Güvenliği Eğitimi. Eskişehir: Anadolu Üniversitesi Yayın No: 3231.
- Durmaz, Ş. (2016). İşgücü Piyasasında Kadınlar ve Karşılaştıkları Engeller, Ahi Evran Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 2-3, 37-60.
- Güler, Z. (2015). Özel politika Gerektiren Grupların İş Yaşamındaki Sağlık ve Güvenlik Riskleri İle Kontrol Tedbirleri, Çalışma Dünyası Dergisi, 3-2, 119-134.
- Güzel, A., Okur, A.R. ve Caniklioğlu, N. (2016). Sosyal Güvenlik Hukuku. İstanbul: Beta Yayınları.
- Kandemir, M (2017). İş Hukuku ve Sosyal Güvenlik Hukuku Boyutuyla Psikososyal Riskler, İstanbul, Legal Yayınları.
- ILO (2011). OSH Management System: A Tool for Continual Improvement, Retrieved from <http://www.ilo.org/safeday> (02.11.2017).
- İlhan, M. N. (2016), Çalışma Yaşamında Psikososyal Risk Etmenleri. Halk Sağlığında Gündem, Retrieved from <http://hasuder.org.tr/hsg/?p=4009> (05.05.2016).

- İlhan, M. N. (2013). Psikososyal Risk Etmenleri. İş Sağlığı ve Güvenliği. (Ed. M.N. İlhan ve S. Sincar), (Erzurum: Atatürk Üniversitesi Açık Öğretim Fakültesi Yayınları), Retrieved from <http://docplayer.biz.tr/13529332-Unite-7-is-sagligi-ve-guvenligi-icindekiler-doc-dr-mustafa-necmi-ilhan-hedefler-psikososyal-risk-etmenleri.html> (20.08.2016).
- Kılış, İ. (2014). İş Sağlığı ve Güvenliği. Bursa: Dora Yayınları.
- Ocaktan, E. (2014). Meslek Hastalıkları. Çalışan Sağlığı ve Güvenliği Eğitimi ve Çalıştayı. 02-05 Aralık. Ankara.
- Özkılıç, Ö. (2014), Risk Değerlendirmesi (Atex Direktifleri-Patlayıcı Ortamlar-Büyük Endüstriyel Kazaların Önlenmesi ve Etkilerinin Azaltılması-Kantitatif Risk Değerlendirme). Ankara: Türkiye İşveren Sendikaları Konfederasyonu Yayınları.
- Özyer, K., ve Azizoğlu, Ö. (2014), İş Hayatında Kadınların Önündeki Cam Tavan Engelleri ile Algılanan Örgütsel Adalet Arasındaki İlişki, Ekonomik ve Sosyal Araştırmalar Dergisi, 10-1, 95-106.
- Sarıbay Öztürk, G. (2015). İş Sağlığı ve Güvenliği Yükümlülüklerinin Yerine Getirilmemesinin Hukuki, İdari ve Cezai Sonuçları. Ankara: Beta Yayınları.
- The World Health Report 2002, [http://www.who.int/whr/2002/en/whr02\\_en.pdf](http://www.who.int/whr/2002/en/whr02_en.pdf) (02.11.2017).
- Vatansever, Ç. (2014). Risk Değerlendirmede Yeni Bir Boyut, Psikososyal Tehlike ve Riskler. Çalışma ve Toplum Dergisi, 117-138.

## **Investigation of Counterproductive Behaviours in Organizations Within the Context of Turkish Business Law and Turkish Criminal Law**

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### **Abstract**

Organizational behaviour aims to understand, evaluate, and manage the behaviour of employees and employers, and as a result, create a more effective working environment. One of the works in this direction in the organisations is the behaviours which are called "non-productive behaviours (counterproductive behaviours)" which decrease the productivity in the organisations. These behaviours can be classified into two groups: The first distinction was made in the form of non-productive behaviours directed against the organization and counterproductive behaviours directed towards individuals. The other distinction is counterproductive behaviours that produce serious consequences and counterproductive that produce mild consequences. These behaviours affect the organisation or the members of the organisation in a negative way. Counterproductive behaviours cause many situations such as early exit from work, overtime break, sabotage, theft, rude behaviour, harassment and abuse. These situations, which negatively affect the organisation, are also covered by labour law and criminal law. There are situations such as termination or disciplinary punishment in the context of business law. Behaviours such as sabotage and theft are criminal sanctions in criminal law and will affect not only the organisation but also the public order. In this study, counterproductive behaviours will be explained primarily in the context of organisational behaviour, while the responses and sanctions of these behaviours in Turkish law will be examined.

**Keywords:** Non-productive behaviours, counterproductive behaviours, Turkish business law, Turkish criminal law.

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## **1. INTRODUCTION**

In organisations, it is possible to see different behaviour patterns of employers and employees and different results of these behaviours. In general, the study area of organisational behaviour increasing motivation and productivity, strengthening loyalty to the organisation, creating awareness of organisational citizenship. However, the negative behaviours in the organisation and the search for a solution to these problems are included in the field of organisational behaviour. These negative behaviours are called counterproductive behaviours. When we look at the counterproductive behaviours, these disciplines are involved in research in different disciplines, apart from the damage they cause to the organisation or members of the organisation. One of the members of the organisation may face labour law or criminal law sanctions when they exhibit a counterproductive behaviour. In this study, the counterproductive (anti-productivity) behaviours encountered in the organisations will be explained. Then, what can happen to those who are in these behaviours according to the provisions of the Labour Law and what the sanctions on these issues in the criminal law will be examined in the context of Turkish Law?

## **2. COUNTERPRODUCTIVE BEHAVIORS**

In an organisation, counterproductive behaviours defined as behaviours that harm the organisation and its members (Martinko et al., 2002: 37). These behaviours can be characterised by flagrant behaviours like theft and aggression or more passively behaviours such as not obeying the rules and performing the duties intentionally wrong (Fox vd., 2001: 292). Another definition says that counterproductive behaviours are directly targeted to the organisation and the stakeholders (managers, colleagues, subordinates, customers etc.) of the organisation. In these behaviours, the intention to harm can be clearly shown or hidden (Spector 2011: 342, Spector and Fox, 2002: 271, Spector and Fox, 2005: 151).

There are many examples of counterproductive behaviours in the workplace. The most commons are theft, sabotage, conflict, wasteful use of time and resources, and the spread of rumours (Kesler, 2007: 6). Counterproductivity behaviours are anti-social behaviours such as discrimination, retaliation, emotional abuse among members of the organisation (Bruk-Lee and Spector, 2006: 147).

## **3. COUNTERPRODUCTIVE BEHAVIORS AND TURKISH LAW**

There are different classifications of counterproductivity behaviours in the literature (Raver, 2004: 10, Spector, 2011: 343). In this paper, we used Robinson and Bennet's (1995: 565) study. According to this classification; there four types of counterproductive behaviours in the workplaces: production diversion behaviours, ownership diversion behaviours, political diversion behaviours and offensive behaviours.

### **3.1. Production diversion behaviours**

These behaviours result in a decrease in productivity at workplaces and are also referred to as deviation from productivity norms. In organisations dominated by such behaviour, productivity is declining in both quantity and quality. In cases where there is less effective in the organisation, it is effective to develop prevention policies against these behaviours (Colquitt vd., 2011: 46). By such behaviour, there are two types of waste: waste of time and waste of resources. Examples of production diversion behaviours include an early exit from work, longer than necessary, slow work, lack of care when using resources, absenteeism, and poor quality of work (Akar, 2013: 199, Demirel, 2009: 124-125).

Production diversion behaviours lead to “termination with time limit” result for workers working under the Labour Law. For workers covered by job security (with a minimum of six months' seniority at the workplace where at least thirty workers are employed), the termination with a time limit is subject to the applicable justification. The valid reasons arising from the worker may be related to the competence or behaviour of the worker. As can be understood from this point, even if the workers are covered by the job security, the employment contracts can be terminated with a time limit when they show the production diversion behaviours. Worker's diversion behaviour may also be in the scope of immediate termination under Article 25 of the Labour Law. For example, in the Labour Law 25/2-h, "not fulfilling the worker's duties despite being reminded of himself". Another example is that the employee is absent over the periods specified in the 25/2-g clause of the Labour Law (Doğan and Kılıç, 2014: 117).

9th Civil Chamber of the Supreme Court has justified the immediate termination of the employment contract of the worker because of frequently abandoned the seizure in the 2016/36268 numbered decision. Accordingly, by the 25/2-h clause of the Labour Law, the fact that the employer did not perform his duty despite the reminder was considered as justified. Long breaks and therefore the poor quality of work caused the termination of the labour contract of the worker, except for the damage to the organisation. Again, the 9th Civil Chamber of the Supreme Court ruled that the employment contract was terminated because the worker's duty was to control the products and report the problematic products with a problem-free report. This decisions number is 2016/35811. According to this decision, the irresponsibility of the worker caused negativity in the organisation. It can be seen that the production diversion behaviours may cause the productivity to decrease in the organisation and cause the worker to lose his / her job no matter what purpose.

### **3.2. Ownership diversion behaviours**

These behaviours include damages to the material values of the workplace such as giving harm to the equipment of the organisation, stealing something from the workplace,

misleading about the hours worked, showing it as if it is not working, taking bribes and sabotage. These behaviours usually have a deliberate action against damage.

In the context of the Labour Law, the sanction of the property will be terminated immediately. The employment contract shall be terminated by the provisions of Article 25/2 of the Labour Law. Immediate termination is a more severe sanction than termination with a time limit. In the event of immediate termination within the scope of Labour Law Article 24/2, the employee shall not be entitled to severance pay.

In the case of ownership diversion behaviours, except for termination by the Labour Code, there may also be considered a crime under the Turkish Penal Code of the actions. For example, stealing an item from the workplace constitutes a crime of theft under Article 141. Damage to the equipment in the workplace constitutes the offence of damaging the property according to Article 151. Examples of behaviours that have criminal sanctions for ownership diversion behaviours may also be reproduced.

The decision of the 9th Civil Chamber of the Supreme Court No. 2015/25436 is an example of the ownership diversion behaviour. In this decision, the camera records were examined to determine the lack of spare parts and then interviewed with the suspected worker. The worker gave inconsistent answers in the interview, and then the missing piece was in the closet of the worker. After this, the employment contract of the worker was terminated by 25/2-e. In this case, upon the complaint of the employer, a lawsuit may be filed against the worker by Article 141 of the Turkish Penal Code which regulates the theft crime.

The 22nd Civil Chamber of the Supreme Court ruled that the medical promotion representative had shown the doctor's visit, which he had not carried out, as a reason for immediate termination. In the decision numbered 2015/16562, it was decided that the statement of the worker that visits were wrongly reported did not reflect the reality and that the occurrence of the same situation did not comply with the usual flow of life. This behaviour directly damages the material values of the workplace. The Supreme Court has stated that this is a reason for immediate termination under Article 25/2 of the Labour Law.

### **3.3. Political diversion behaviours**

The individual who exhibits political diversion behaviours exhibit behaviours that do not comply with the rules of good manners, social values or legal norms. Behaviours can be the focus of other employees in the organisation or customers. These behaviours damage internal relations and indirectly the efficiency of the organisation (Acar, 2013: 199). Examples of such behaviour include: shift the blame, gossip, and nepotism (Doğan and Kılıç, 2014: 117).

Political diversion behaviours may result in termination with a time limit or immediate termination according to the Labour Act. For example, breaking the peace in the

workplace and lowering the motivation of other employees by gossiping may be a reason for termination with time limit according to Article 18 of the Labour Law. It is the cause of termination immediately by Article 25/2-b of the Labour Law that it has been found to be the groundless denunciations and implications of honour and dignity over the employer.

Political diversion behaviours towards individuals within the organisation can also constitute a criminal offence in the sense of the Turkish Penal Code. For example, the crime of libel is regulated in Article 267 of the Turkish Penal Code. According to this, there must be a committed crime, and it must be treated as if someone who has not committed this crime has committed. In this case, the person who has slandered the person who does not commit the crime shall be subject to criminal sanctions.

In judgments of the 9th Civil Chamber of the Supreme Court did not take into account the loss of the company as a result of the employee's political diversion behaviour and accepted it as a reason for termination by the 25/2-e of the Labour Law. Accordingly, other workers in the workplace are subject to unlawful action, and their motivation is declining and is sufficient for dismissal. As it is seen, the employer's right to terminate immediately in the case of political diversion behaviour does not require any direct harm to the organisation.

The violation of the confidentiality of a worker by another worker, considered among the political diversion behaviour, was accepted as a reason for immediate termination by the General Assembly of the Supreme Court. In Resolution 2015 / 22-1890, an employee of the employer has recorded his speech with another worker. The General Assembly of the Supreme Court ruled that this situation was within the scope of the employer's obligation to look after the employee and the termination was justified. Accordingly, within the scope of Article 25/2-b of the Labour Law, termination is based on justifiable reasons. This action also constitutes a crime of privacy under Article 134 of the Turkish Criminal Code.

### **3.4. Offensive behaviours**

Orally or physically, hostile actions against employees in the organisation constitute these behaviours. Threats, sexual harassment, psychological harassment, deliberate wounding, not taking occupational health and safety measures to be taken, profanity can be counted among these behaviours.

The sanction in the Labour Code is usually immediately terminated by the offensive behaviour against the individual. Termination with time limit may also be seen if the act is lighter. As an example, the worker's self-negligence endangers occupational safety is a reason for immediate termination under Article 25/2 of the Labour Code. Sexual harassment is an immediate cause of termination in the context of Article 25/2-c of the Labour Code.

In the Turkish Penal Code, the majority of the offensive behaviour to the individual was considered a crime. They have criminal sanctions. The threat of crime is regulated in

Article 106; sexual harassment is regulated in Article 105, intentionally injured is regulated in Article 86, insult is regulated in Article 125. As mentioned, examples of movements with offensive behaviour to the individual can be reproduced, and criminal penalties will be determined by examining criminal elements.

The judgment of the 9th Civil Chamber of the Supreme Court numbered 2017/28047 relates to a sexual harassment incident at the workplace. The employment contract of the male worker who has harassed messages to women workers working in the same workplace in verbal and written form has been terminated by the provision of 25/2-c of the Labour Law. It was observed that the content of the messages was at the level of harassment. As it is seen, this harassment caused the uneasiness of the other workers in the workplace and disturbed the organisational order. In addition to the termination of the contract of the employee with the disclosure of the situation, sexual harassment constitutes a crime according to the Turkish Penal Code. According to Article 105 of the Turkish Criminal Code, the person who harasses a person for sexual purposes shall be punished upon the complaint of the victim. In the given example decision, in case of complaint of other workers in the workplace, the worker whose employment contract is terminated will also face criminal sanctions. If this example included sexual harassment of a worker in the higher position within the organisation, he would have faced a heavier punishment than the Turkish Penal Code. Because if the crime of sexual harassment is committed by taking advantage of the convenience provided by a service relationship, the penalty to be imposed should be increased. For example, if a manager with a dismissal authority commits this crime by employing the fear of losing employees' job, the penalty shall be increased.

In case two workers working in the workplace fight each other, the decision of the Supreme Court is the termination of the employment contract of both workers. This is contrary to the equal transaction debt. The decision of the General Assembly of Supreme Court Law No 2015 / 9-2795 is also in this direction. Accordingly, the contract of the two workers in the workplace in the actual attack on each other is terminated by Article 25/2-d of the Labour Law. In the event of injury during the fight, a crime of intentional injury will occur by the Turkish Penal Code. Accordingly, the criminal case will be filed against the complaint in simple injury. In case of qualified injury, the criminal case will be filed without any complaint. If the offence is fixed by court decision, the criminal sanction will be applied.

#### 4. CONCLUSION

Negative relationships can be seen in every part of society, wherever there is a mutual relationship, as well as negative relations in the workplaces which are a small section of society. The dislike of the employer, the disagreement with colleagues, the different dynamics in the workplace can push the employees to the undesired behaviours in the



organisation. Here, the results of the behaviours to harm the organisation or the colleagues will affect the worker himself. Even if he reaches his goal, he will be more affected by it. The employment contract of the worker may be terminated by the regulations contained in the Labour Law. The worker will also face sanctions in the Turkish Penal Code. These sanctions may be the imprisonment or punitive fines. The negative behaviours exhibited in the organisation have a negative effect on every side of the organisation. Therefore, behaviour patterns within the organisation are of great importance. Work to increase the commitment of workers to the organisation will reduce the anti-productivity behaviours and contribute to the organisation. The reduction of organisational commitment will cause great harm to both the organisation and other employees as well as to the employee with reduced loyalty.

## REFERENCES

- Acar, P. (2013). Örgütsel Öğrenme, Vatandaşlık ve Adalet, A.Ç. Kirel ve O. Ağlargoöz içinde *Örgütsel Davranış*, (s. 192-209), Eskişehir: Anadolu Üniversitesi Açıköğretim Fakültesi Yayınları.
- Bruk-Lee, V. & Spector, P. E. (2006), The Social Stressors–Counterproductive Work Behaviors Link: Are Conflicts With Supervisors and Coworkers the Ame?, *Journal of Occupational Health Psychology*, 11(2), 145–156.
- Coloquitt, J. A.; Lepine, J. A. & Wesson, M. J. (2011). *Organisational Behavior: Improving Performance and Commitment in the Workplace*, McGraw Hill, New York.
- Demirel, Y. (2009). Örgütsel Bağlılık Ve Üretkenlik Karşıtı Davranışlar Arasındaki İlişkiye Kavramsal Yaklaşım, *İstanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi*, 8(15), 115-132.
- Doğan, S. & Kılıç, S. (2014). Algılanan Örgütsel Etik İklim ve Üretkenlik Karşıtı İş Davranışları Arasındaki İlişkilerin İncelenmesi, *Cumhuriyet Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 15(1), 269-292.
- Fox, S.; Spector, P.E. & Miles, D. (2001). Counterproductive Work Behavior (CWB) in Response to Job Stressors and Organizational Justice: Some Mediator and Moderator Tests for Autonomy and Emotions, *Journal of Vocational Behavior*, 59(3), 291-309.
- Kesler, S.R. (2007). The Effects of Organizational Structure on Faculty Job Performance, Job Satisfaction, and Counterproductive Work Behavior, PhD. Thesis, University of South Florida.
- Martinko, M. J., Gundlach, M. J. and Douglas, S.C. (2002). Toward an Integrative Theory of Counterproductive Workplace Behavior: A Causal Reasoning Perspective, *International Journal of Selection & Assessment*, 10(1/2), 36-50.
- Raver, J. L., (2004). *Behavioural Outcomes of Interpersonal Aggression at Work: A Mediated and Moderated Model*, PhD. Thesis, University of Maryland.

- Robinson, S. L. & Bennett, R. J. (1995). A Typology of Deviant Workplace Behaviors: A Multidimensional Scaling Study, *Academy of Management Journal*, 38, 555-572.
- Spector, P. E. & Fox, S. (2002). An Emotion-Centered Model of Voluntary Work Behavior: Some Parallels between Counterproductive Work Behavior and Organizational Citizenship Behavior, *Human Resource Management Review*, 12(2), 269-292.
- Spector, P. E. & Fox, S. (2005). The Stressor-Emotion Model of Counterproductive Work Behavior, S. Fox, ve P. E. Spector içinde *Counterproductive Work Behavior: Investigations of Actors and Targets* (s. 151-174), Washington, DC, US: APA
- Spector, P. E., (2011). The Relationship of Personality to Counterproductive Work Behavior (CWB): An Integration of Perspectives, *Human Resource Management Review*, 21(4), 342-352.

## **A Study on Marketing and Cost Oriented Strategies During the Crisis in the Accommodation Industry**

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### **Abstract**

Evaluations of decision makers about what actions should be taken in marketing and cost reduction in crisis are examined in this study. Besides that, decision makers' evaluations of how useful these actions are addressed. In this context, exploratory two-phased research has been conducted in the large and medium-small sized hotels operating in Muğla, Turkey. The data were collected by in-depth interviews, and descriptive analysis was used to analyse it.

Participants emphasise the responsibilities of the government on what to do when the crisis was beginning to feel. They assert that the government should provide some actions such as tax reductions and debt restructuring in addition to allocating extra resources to the country promotion. Besides, respondents focus on strategies such as destaffing, reducing the employee wages, limiting the offered goods and services, reducing the marketing communication budget, and reducing the applied prices in the company. In the second phase of the study, the respondents think that government practices are not effective enough in producing solutions. Respondents also state that some situations such as the lack of improvement in the marketing communication strategies of the country, not reducing the VAT rate in the food and beverage sector weaken their enterprises during the crisis. The majority of managers claim that limiting the activities of marketing communication affect the demand negatively.

**Keywords:** Crisis, Accommodation, Marketing, Cost reduction, Strategies.

### **1. INTRODUCTION**

The tourism sector is one of the economically most important industries but has a quite vulnerable structure. One of the main reasons for this is that the tourism sector is influenced by external factors such as exchange rate, political conditions, environment and weather conditions (Pforr, 2009; Ritchie, Crotts, Zehrer and Volsky, 2013). The tourism sector is defined as an open system that is uncontrollably affected by external factors. For this reason, it does not seem to be possible to describe crisis management with static recommendations in such a complex field of social sciences. As crises have a dynamic structure, the methods of combating crisis must be arranged in such a way as to comply with this chaotic environment (Ritchie et al., 2013; Scott, Laws and Prideaux, 2007).

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While each crisis has its unique structure, the effects of the crises and the methods to combat these effects depend on the structures of businesses and the environment in which they exist (Stafford, Yu and Armoo, 2002). The decision-makers in different sub-industries in the tourism sector must first analyse the situation in which they are in order to combat the crisis and then implement the measures specific to this unique crisis they face (Cushnahan, 2004). To do so, decision-makers need to evaluate the actions correctly and make accurate decisions. The literature discusses the responsibilities of different actors in the process of combating the crisis. The most preeminent one is the businesses themselves, and there is a great deal of research focusing on the methods they use. Among these methods, marketing and cost-oriented activities play an important role (see Cushnahan, 2004; del Mar Alonso-Almeida and Bremser, 2013). Another important factor that can be highly influential in crisis periods is the government. Governments try to help businesses to reduce the adverse effects of crises through various tools (del Mar Alonso-Almeida and Bremser, 2013; Sawalha, Jraisat and Al-Qudah, 2013; Sigindi, 2018).

There is a limited amount of research exploring the system-related effects of crises on the tourism sector or its sub-industries (Ritchie, Crotts, Zehrer and Volsky, 2013). Knowing what decision makers think about how to combat crises is thought to be useful in determining the correct actions and how to implement these actions. Moreover, understanding how much responsibility is assigned to stakeholders by decision-makers about the actions to be conducted coordination easier. In this regard, the evaluations of managers and business owners about the marketing and cost-oriented measures taken at the beginning and following stages of a crisis and about the determined action plans as well as about how much these plans and measures proved to be useful were investigated. In this paper, the accommodation industry is handled as one of the leading sub-industry in the tourism sector in order to address the issue.

In the following sections of the study, firstly the conceptual framework related to the research problem is presented then the field survey conducted to find answers to the research questions is explained. Finally, the findings of the study are discussed, and suggestions for future research are made.

## **2. CONCEPTUAL FRAMEWORK**

In this section, first, information is given about the concept of crisis and different types of crisis. Then, the causes and results of the 2016 crisis, which is the subject of this research, are explained and then marketing and cost-oriented strategies used to deal with the crises in the tourism sector are discussed.

### **2.1. The Concept of Crisis and Classification of Crises**

In a broader sense, the crisis is defined as any situation which is encountered by the individual or organisation and which cannot be solved by routine methods (Booth, 1993:

85). According to this definition, the crisis is expressed as a kind of extreme mismatch that threatens the existence of a socioeconomic system (organisation) or individual and its immediate environment. According to another definition, the crisis is a specific, unexpected, non-routine event or series of events that create a high level of uncertainties and constitute a significant threat to priority objectives (Seeger, Sellnow & Ulmer, 2003: 7).

Crises are classified in different ways. Knowing the types of crisis that can be faced is important regarding developing appropriate fighting strategies for each. Meyers and Holusha (1986: 12-13) divided crises into nine different types including crises of public perception, product failures, top management successions, sudden fluctuations in the market, nationalisation or privatisation of the industry, adverse international events, hostile takeover, industrial relations and the contraction of the money supply. On the other hand, Lerbinger (1986) divided the crises into four groups: technological crises, confrontational crises, crises of malevolence, and crises of managerial failure.

Crises can also be classified as economic, political, social, organisational, technological and ecological crises (Iivari, 2012: 15). Although the classifications of the crisis types are different, what is important for businesses is the potential of crises to affect the economic situation adversely.

In times of crisis, sudden and unexpected events hinder normal activities by causing businesses to experience problems. The current structure and processes of businesses are insufficient to provide solutions to problems that arise during crisis periods. Therefore, in order to overcome a crisis, it is necessary to make the necessary changes and renew the processes in the business as soon as possible.

The conditions in the period examined in the current study exhibit the characteristics of a crisis caused by terrorism and political conflicts. In the following section, the effects of the crisis experienced in Turkey in 2016 on the tourism sector are explained.

#### **a. The Tourism Crisis Experienced in Turkey as of 2016**

Crises caused by economic, political and environmental factors negatively affect accommodation businesses in different ways. There may be a number of negativities that may threaten the continuity of a business such as decline in the number of tourists, increase in costs, deterioration of trade relations and shortage of financing (see Israeli, Mohsin and Kumar, 2011, Kim, Chun and Lee, 2005; Okumuş, Altınay and Araslı, 2005). In order to overcome these problems, first of all, the reasons, dimensions, effects and direction of the crisis should be analysed. Thus, in this section, causes and effects of negativities experienced in 2016 and having the attributes of a crisis for the Turkish tourism are discussed.

The decline in oil prices as of 2014 worldwide led to a weakening of the purchasing power parity of the countries obtaining most of their tax revenues from oil and petroleum products. Particularly Russia, which obtained 50.2% of its tax revenues from oil and natural

gas sales, was the most affected country. The economic problems experienced by the continuous decline in world oil prices caused the Russian ruble to lose value rapidly against foreign currencies, and financial stability deteriorated. Though this negatively affected the Russian demand for Turkish tourism, this effect was relatively limited compared to other countries. However, due to negative developments experienced by Turkey in the second half of 2015 and 2016, the tourism sector entered a severe crisis. Downing of a Russian fighter aircraft on the grounds of border violation on November 24, 2015, an ongoing war in Syria and acts of terrorism that occurred in Turkey negatively affected the decisions of potential tourists to come to Turkey (Dalgıç & Birdir, 2017: 217).

As a result of the political tension occurring between the two countries after the downing of a Russian fighter aircraft, Russia banned the tour sales and charter flights to Turkey, leading the tourism sector of Turkey into a difficult situation. Russia is an important market for the Turkish tourism, as annually about 4.5 million Russian tourists visit Turkey, constituting 12% of the total tourism demand directed to Turkey; hence, the effects of the problems experienced with Russia were severely felt in the tourism sector in Turkey.

On the other hand, the coup attempt occurring on 15 July 2016 has profoundly affected the political, economic and social structure of Turkey (Davras & Aktel, 2018: 29-30). The reflections of these negative developments into the tourism sector have occurred in the form of a decline in the number of visitors and accordingly in tourism revenues, a decrease in the number of people employed in the tourism sector, many accommodation businesses coming to the point of bankruptcy or their suspending their business activities. When the developments leading to the 2016 crisis are examined, it is possible to say that this crisis is a crisis caused by terrorism and political conflicts which has negative economic effects for the tourism sector.

#### **b. Marketing and Cost Oriented Actions Performed in the Tourism Sector to Deal with Crises**

The tourism sector is highly vulnerable to human-induced factors such as terrorism, political instability, war, political conflicts and fluctuations in the economy as well as natural disasters. No matter how the crisis occurs in the tourism sector, businesses with detailed action plans are more likely to survive with minimal damage from the crisis. The point that needs to be considered here is that the crisis must be analysed in depth and suitable strategies should be developed accordingly. In this section of the current study, marketing and cost-oriented action plans carried out by businesses and the government against different types of crisis in the tourism sector are discussed.

Governments pursue different strategies for the crises caused by terrorism depending on the conditions in which they are. Egypt, for example, implemented a strategy of focusing on aggressive marketing and promotion efforts by increasing security measures in order to

cope with the crisis caused by terrorism in the tourism sector in the 90s. The Egyptian Ministry of Tourism reviewed the existing marketing strategies and generated a new set of targets; accordingly, increased the advertising and promotion activities to a great extent. Mexico has sent 1 million letters of invitation to business representatives in order to re-establish the environment of trust that was broken by the clashes in Chiapas in the 90s and to reinvigorate tourism in the region. In the letter, businesses are promised tax exemptions if they organise their meetings and congresses in the Chiapas region as well as great discounts on hotel prices. Northern Ireland has developed strategies to increase tourist visits in order to eliminate the negative impacts of terrorist acts. Among these strategies supported with intensive promotional activities are there attempts to offer new tourism products and to create new attractions (Sönmez, Apostolopoulos and Tarlow, 1999: 13-18).

Stafford et al. (2002) investigated how Washington D.C. dealt with the crisis after the 11 September 2001 terrorist attacks. In order to increase the city's rapidly falling tourism revenues, first of all, attempts were made to include all stakeholders in the process in cooperation with the government. Various elements that could reinvigorate both business and leisure tourism were promoted. Moreover, a special fund was generated to create a new marketing program for the city. After urgent measures had been taken, a new marketing program especially aiming at long-term success was developed. Within the scope of this program, it was aimed to introduce new features that would make the city more attractive to consumers.

Bahar and Keklik (2011: 87-88); in their study focusing on the strategies pursued in accommodation industry to combat with the crisis, outlined the strategies implemented by different countries in the face of the crisis emerging in the global financial markets in 2008 and profoundly affecting the tourism sector. In this connection, while France lowered the VAT rate in the food and beverage industry, Spain prepared a support package of € 1 billion for the infrastructure and superstructure renovations of tourism organisations. In Italy, the low-income group was tried to be attracted to the market by applying off-season price cuts. Greece's country promotion budget was increased by 50%. In Portugal, promotion campaigns were intensified, and a support package of 500 million Euros was put into effect in the sector.

del Mar Alonso-Almeida and Bremser, K. (2013) concluded that firms in the hospitality industry in Spain must best deal with the crisis with high quality, brand image and consumer loyalty-oriented actions at a time when consumers' incomes are decreasing. Also, cost-reducing actions have led businesses to perform poorly during the crisis.

As can be seen, strategies used to fight against the crisis vary according to the conditions of the crisis and the conditions specific to the countries. The number of these strategies can be increased. What is important here is that managers should choose the strategies that best suit the type of crisis, country-specific conditions and the structure of

their businesses. The right strategies to be pursued will help the business successfully overcome the crisis and overcome it with the least damage.

### **3. METHODOLOGY**

As within the context of the current study, the opinions of senior hotel managers/owners about what should be done during the process of the crisis were holistically investigated, the qualitative research design was deemed to be suitable. In this way, it was aimed to deeply explore the participants' evaluations fed with their experiences and opinions. Two different interviews were conducted with the same participants at the beginning and end of the crisis; thus, a two-stage data collection process was designed. In this way, how the experiences gained during the crisis have shaped the opinions of the participants was investigated. In order to address the research problem of the current study, the in-depth interview method, one of the qualitative research methods, was used. The first interviews were conducted in April 2016, when the crisis had just started, and the second interviews were conducted nearly two years after the first ones in May 2018, when the effects of the crisis decreased. In this context, interviews were conducted with co-founders or senior managers of 4 small/medium-scale and three large-scale accommodation organisations operating in the city of Muğla in Turkey.

A semi-structured interview form was used, and audio recordings of the interviews were taken in the interviews. The interview form was created as a result of the literature review and starts with questions about demographic characteristics. In the second part of the form, there are various questions to elicit the participants' opinions and evaluations about the pre-determined themes. Two researchers participated in the interviews, one of whom was a moderator, while the other observed the interview and controlled environmental factors. The sound recordings were first converted into text, and the findings were obtained by using descriptive analysis.

Within the scope of descriptive analysis, data were systematically reviewed and organized. Then they were placed under the themes determined within the context of the conceptual framework and shaped during the interviews. Finally, the data were explained by being described in a simple and clear manner, and the findings were reviewed and interpreted. The two researchers involved in the current study shared the data collection and analysis process in that the researcher not taking the role of a moderator in an interview conducted the analysis and the researcher who was the moderator made comments where necessary. In this way, the reliability of the study was increased (see, Yıldırım and Şimşek, 2013).

### **4. CONCLUSION**

In the current study, the evaluations of the decision makers in accommodation organisations of varying size in the city of Muğla in Turkey about what should be done to



overcome the crisis were investigated at the beginning and end of a crisis. In the literature, there are studies having investigated what should be done in crisis periods in the tourism sector. However, an in-depth analysis of the opinions of decision-makers in the tourism sub-industry of accommodation can contribute to the understanding of the effects of cultural and environmental factors. Through the findings obtained in the current study, it was revealed which stakeholder; according to decision makers, should assume the main responsibility to fight against the crisis and what kinds of actions should be performed about the issues of marketing and cost. The actions recommended by the discipline of administration are discussed in the conceptual framework. The current study also made some contribution to business life by eliciting the extent to which the opinions of decision-makers in Turkey match or contradict with the scientific suggestions.

The participants primarily focused on the responsibilities of the government about what should be done during the initial stage of the crisis. They argued that the government should produce solutions such as tax reductions and debt restructuring in addition to providing extra resources for country promotion. Expected solutions include: making it easier for tourists to get visa, reducing the value-added tax (VAT) rates applied in the food and beverage industry, providing project support for the renewal of accommodation establishments, increasing the budget allocated for the promotion of the country, credit subsidy for small and medium-sized accommodation companies, granting low interest loans, increasing the rate of bank guarantee, providing instalment opportunities with credit card sales.

On the other hand, they suggested the following precautions to be taken by businesses themselves: reducing the number of personnel, decreasing wages, limiting the number of products and services, reducing the budget of marketing communication, reducing prices.

As for the second part of the study carried out when the effects of the crisis started to decrease, the participants thought that the state interventions were not as effective as expected regarding producing solutions. The state is not taking precautions such as not reducing VAT rates and not making an adequate increase in the budget allocated to the promotion of the country resulted in more weakening of businesses in the crisis. They also stated that they experienced difficulties in obtaining the financing needed due to the increase in interest rates on loans. While the majority of the participating managers claimed that the reduction in personnel spending worked, they were of the opinion that decreasing the marketing communication exacerbated the negative effects of the crisis. On the other hand, the participants thought that the reduction in prices had positive effects on customer demand in the short term while limiting the offered goods and services negatively affected customer satisfaction. Also, the majority of the participants pointed out that it is necessary to work with different countries for better risk management.

When the evaluations of the participants were subjected to a general analysis, it was determined that they focused mostly on short-term measures during the crisis. However, it is stated in the literature that the fight against the crisis should be done with a long-term perspective (see Stafford et al., 2002).

Although small and large-scale hotels are important actors in the accommodation industry, they do not represent the entire industry. Therefore, it seems to be impossible to generalise these findings to other accommodation businesses in the industry. In recent years, the importance of sharing economy applications such as Airbnb has been increasing in the accommodation industry. Future research to investigate the paths to be followed by such different types of accommodation businesses can make contributions to the conceptual framework and help decision makers.

The data analysed in the study were collected from businesses that were available and operating in the city of Muğla. Since the current research was exploratory and employed qualitative data, generalisation was not intended. However, hotel businesses in different parts of the country may have different views and evaluations due to changing conditions. Therefore, future research can be conducted to include participants from the hotel organisations located in different regions of the country.

## REFERENCES

- Bahar, E., Kaya, F. & Keklik, F. (2011). Struggle strategies with the crisis in the accommodation sector. *International Journal of Economic and Administrative Studies*, 3(6), 83-99.
- Booth, S. A. (1993). *Crisis Management Strategy: Competition and change in modern enterprises*. London and New York: Routledge.
- Cushnahan, G. (2004). Crisis management in small-scale tourism. *Journal of Travel & Tourism Marketing*, 15(4), 323-338.
- Dalgıç, A. & Birdir, K. (2017). Crisis management practices and expectations of hospitality enterprises: a study on five-star hotels. *Mehmet Akif Ersoy University Social Sciences Journal*, 9(20), 216-235.
- Davras, G. M. & Aktel, M. (2018). The reflections of the 2015-2016 crisis on tourism in Turkey. *Suleyman Demirel University Visionary Journal*, 9(21), 27-38.
- del Mar Alonso-Almeida, M., & Bremser, K. (2013). Strategic responses of the Spanish hospitality sector to the financial crisis. *International Journal of Hospitality Management*, 32, 141-148.
- Iivari, P. (2012). *Business crisis and its management: Crisis management as a part of safety and security management in a tourism company*. Rovaniemi University of Applied Sciences Publications, Publication series C no. 31.

- Israeli, A. A., Mohsin, A., & Kumar, B. (2011). Hospitality crisis management practices: The case of Indian luxury hotels. *International Journal of Hospitality Management*, 30(2), 367-374.
- Kim, S. S., Chun, H., & Lee, H. (2005). The effects of SARS on the Korean hotel industry and measures to overcome the crisis: A case study of six Korean five-star hotels. *Asia Pacific Journal of Tourism Research*, 10(4), 369-377.
- Lerbinger, O. (1986). *Managing corporate crises*. Boston, MA: Barrington Press.
- Meyers, G. C. & J. Holusha (1986). *When it hits the fan: Managing the nine crises of business*. Boston, MA: Houghton Mifflin Company.
- Okumus, F., Altınay, M., & Arasli, H. (2005). The impact of Turkey's economic crisis of February 2001 on the tourism industry in Northern Cyprus. *Tourism Management*, 26(1), 95-104.
- Pforr, C. (2009). Crisis Management in Tourism: A Review of Emergent Literature. In *Crisis Management in the Tourism Industry: Beating the Odds?* Ed. C. Pforr and P. Hosie. Surrey: Ashgate, 37-52.
- Ritchie, B. W., Crotts, J. C., Zehrer, A., & Volsky, G. T. (2014). Understanding the effects of a tourism crisis: The impact of the BP oil spill on regional lodging demand. *Journal of Travel Research*, 53(1), 12-25.
- Sawalha, I.H.S., Jraisat, L.E., & Al-Qudah, K.A.M. (2013). Crisis and disaster management in Jordanian hotels: practices and cultural considerations. *Disaster Prevention and Management: An International Journal*, 22(3), 210-228.
- Scott, N., Laws, E., & Prideaux, B. (2008). Tourism crises and marketing recovery strategies. *Journal of Travel & Tourism Marketing*, 23(2-4), 1-13.
- Seeger, M. W., Sellnow, T. L., & Ulmer, R. R. (2003). *Communication and organisational crisis*. Westport, CT: Greenwood Publishing Group.
- Sigindi, T. (2018). Consumers, Businesses, and Governments During an Economic Crisis: A Marketing Perspective. In [(ed.) Leon, R.D.; *Managerial Strategies for Business Sustainability During Turbulent Times*], IGI Global: 208-222.
- Sönmez, S., Apostolopoulos, Y. & Tarlow, P. (1999). Tourism in crisis: Managing the effects of terrorism. *Journal of Travel Research*, 38(1):13-18.
- Stafford, G.; Yu, L.; and Armoo, A.K. (2002). Crisis management and recovery: How Washington, D.C., responded to terrorism, *Cornell Hotel and Restaurant Administration Quarterly*, October, 27-40.
- Yıldırım, A. & Şimşek, H. (2013). *Sosyal bilimlerde nitel araştırma yöntemleri*. 9.baskı, Ankara: Seçkin Yayıncılık.

## Ecological Dimensions of Supply Chain Management in Construction

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### Abstract

Sustainability is an emerging issue for construction which is regarded as the most pollutant industry globally by causing huge greenhouse gas emissions and the greatest consumption of raw materials. Since materials are regarded as the main component of the construction projects, it is significant to reduce environmental impacts of materials-related activities during both design and construction phases. Supply chain management (SCM) is a sophisticated concept which contains all materials-related activities of construction projects. In the last decade, construction supply chain management (CSCM) has become a new challenge for both researchers and construction managers in order to reduce environmental impacts as well as the total project costs. Life cycle assessment (LCA) is being commonly utilised in order to evaluate the environmental impacts of a building material throughout its life cycle. In this paper, the ecological aspects of CSCM are discussed. First of all, brief information, general framework and scope of the LCA technique are given. Then LCA tools that assess the environmental impacts of building materials are introduced. A new LCA approach for environmental impact assessment of building materials is suggested. Finally advantages the ecological perspective will bring to the Architecture, Engineering and Construction (AEC) industry are examined.

**Keywords:** Architecture, Engineering and Construction (AEC), Building materials, Construction Supply Chain Management (CSCM), Green Supply Chain Management (GSCM), Life Cycle Assessment (LCA).

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## 1. INTRODUCTION

The quality revolution of the 1980s and the supply-chain revolution of the 1990s indicated that the best practices call for integration of environmental management with ongoing operations (Srivastava, 2007). While SCM increases the level of competition among companies, it is also a requirement to adapt to the trends of the era. These developments necessitate the transition from the classical SCM to Green Supply Chain Management (GSCM). GSCM has emerged as an effective tool to ensure sustainability with a lower environmental footprint through the reduction of waste and carbon emission. GSCM integrates environmental thinking into supply chain management by including extensive stages from designing a product, material sourcing and selection, manufacturing processes, product delivery, and end-of-life management of the product (Srivastava, 2007).

The term sustainability, which increasingly refers to an integration of social, environmental, and economic responsibilities, has begun to appear in the literature of business disciplines such as management and operations (Carter and Rogers, 2008). LCA is a prominent technique of assessing and comparing the environmental burden of products and services. According to the definition of EPA; LCA is a holistic concept and method used to determine the possibilities of a product, process or activity to realise environmental impacts and environmental improvements throughout the whole life cycle. The life cycle mentioned in LCA constitutes the process of raw material extraction, production, use/reuse, maintenance and recycling/waste management (EPA, 1995). LCA measures the amount of spent energy, waste generation and disposal, the use and consumption of natural resources.

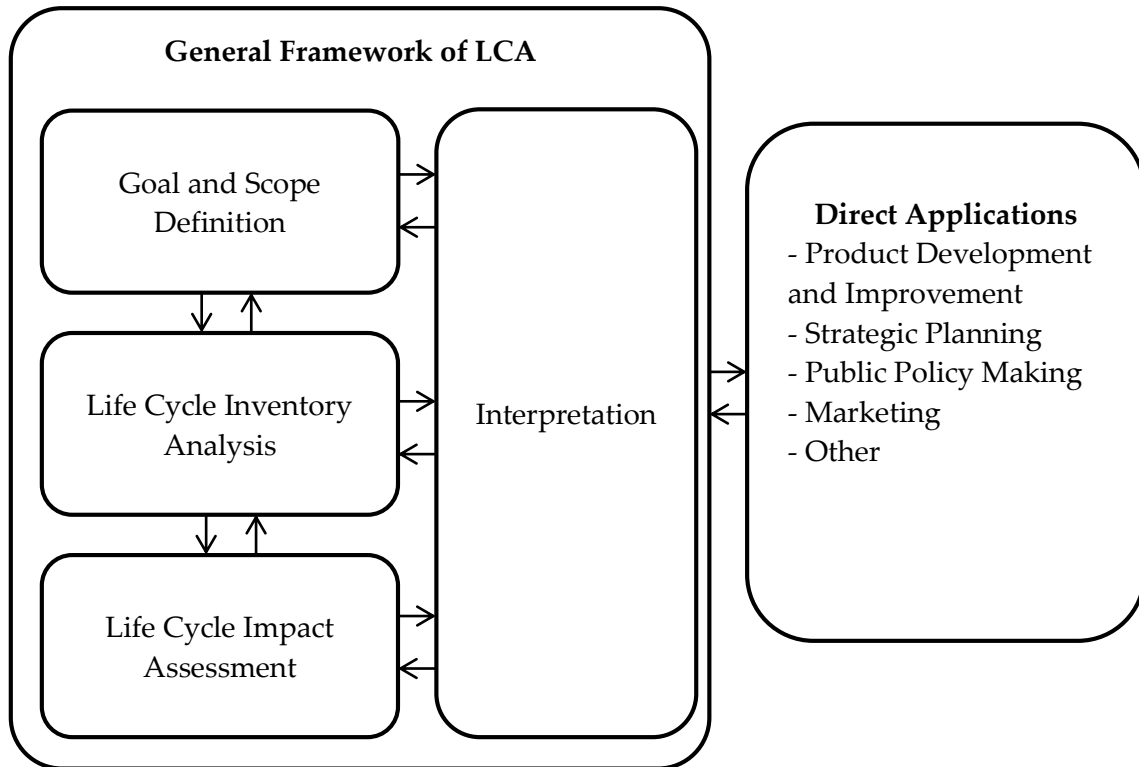
In this paper, GSCM possibilities in construction are researched. LCA as a featured method to evaluate the environmental impact of materials is introduced briefly, and LCA tools that assess the environmental impacts of building materials are introduced. A new GSCM framework in construction is suggested. Finally, the advantages of the ecological perspective for construction are addressed.

## 2. LIFE CYCLE ASSESSMENT (LCA)

LCA is a technique used in order to determine, report and manage the environmental impacts of the different stages of the life cycle, starting with the acquisition of raw materials used in the production of a product or service, including the disposal of all relevant production, transportation, use and waste disposal. (Demirer, 2011). LCA examines the environmental inputs and outputs associated with a product or service lifecycle from the cradle to the grave, which means from the raw material acquisition to the production, transportation and use phase, if necessary, to further processing, to the final disposal process (Khasreen et al., 2009). LCA studies consist of four phases: Goal and scope definition, inventory analysis, impact assessment and interpretation (Figure 1).

The idea of LCA matured in Europe and the US in the late 1960s and early 1970s. However, it was in the late 1980s and early 1990s that LCA gained a greater interest in environmental awareness and energy use (Azapagic, 1999). LCA has been used in the construction sector since 1990 and is an important tool for evaluating the environmental performance of buildings. In 1998, the Society for Environmental Toxicology and Chemistry (SETAC), which works to develop the LCA methodology, has formed a working group that examines the applications of LCA in the construction sector. The purpose of this group is defining the specific characteristics of LCA, to propose a specific guideline or options for method based choices and to make predictions for future studies.

**Figure 1:** General Framework of LCA



Source: ISO 14040, 2006

## **2.1. LCA Tools for Carbon Emission Calculation of Building Materials**

In recent years, various tools are developed in order to evaluate the environmental impacts of building materials and to make LCA method available for the selection of environmental-friendly building materials. These tools significantly improved the efficiency of analysis and expanded the implementation of LCA. Although these analysis tools shared the same theory, the functions' performance, the system framework and, even application is totally different, and the variety of these tools brings the problem of decision-making difficulties for the users (Fu et al., 2014). In a survey carried out in the USA in 2006, which was conducted for participants with private, public and academic staff, is revealed that 58% and 31% of the participants prefer Gabi and SimaPro software, while the remaining 11% prefer TEAM, BEES and other software (Cooper and Fava, 2006). These LCA tools will be introduced briefly as follows.

### ***Athena***

This LCA tool enables architects, engineers and researchers to assess the environmental impact of industrial, institutional, office-functional, multi-unit housing and single-family housing design (Fu et al., 2014). *Athena* can analyse LCA in the light of North American data from the cradle to the grave for building materials.

### ***Bees***

BEES (Building for Environmental and Economic Sustainability) which is software in order to measure the economic and environmental performance of building materials, is developed by NIST (US National Institute of Standards and Technology). This analysis tool evaluates the environmental performance of all materials during the life of the building materials by using the life cycle assessment approach from the cradle to the grave.

### ***GaBi***

GaBi is developed in Germany in 1992 and is a world-class leading LCA tool to model products and systems from a life-cycle perspective. Databases used by GaBi can be taken to remote servers. This allows the data to be updated directly to the customer's models, effectively managing the customer's databases and providing consistent databases (Fu et al., 2014).

### ***SimaPro***

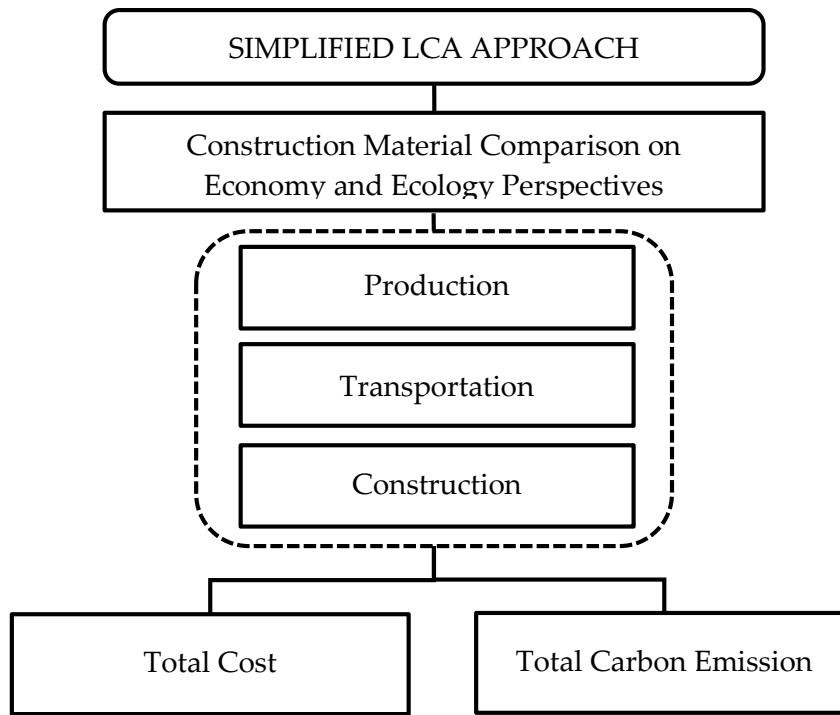
Another LCA software, SimaPro (System for Integrated Environmental Assessment of Products), enables users to conduct an LCA study with existing unit processes, built-in impact assessment methods and end-of-life options. Developed in the Netherlands in 1990, SimaPro provides a professional tool for collecting, analysing and monitoring the environmental performance of products and services. Analyses include impact categories

such as greenhouse effect, energy, air, ozone depletion, toxicity, water pollution, and solid waste (Günaydın, 2011).

### 3. SIMPLIFIED LCA APPROACH

In this paper, it is aimed to develop an environment-friendly approach on the selection of building materials, thus reducing the carbon footprint of the construction industry, which is an extremely environmental pollutant. A new and simplified LCA approach for evaluating both economic and environmental impact of building materials is proposed. Figure 2 illustrates the framework of the proposed approach.

**Figure 2:** Framework of Proposed Approach



Simplified LCA is adopted from the cradle-to-grave LCA scope, and includes three main phases which are production, transportation and construction. Phases considered in LCA processes of building materials are evaluated at equal importance. Both the cost and carbon emission values have reached the final cost and final carbon emission values with cumulative totals of all three phases.

This suggested practical approach is called Penalty Score (PS). Economy penalty score of materials is calculated as follows:

$$PS_{materials - economy} = (C_{production} + C_{transportation} + C_{construction}) \quad (1)$$



Parameters are expressed as  $PS_{\text{materials-economy}}$ : Economy penalty score of building materials,  $C_{\text{production}}$ : Material production cost,  $C_{\text{transportation}}$ : Material transportation cost, and  $C_{\text{construction}}$ : Material implementation cost.

Ecology penalty score of materials is calculated as follows:

$$PS_{\text{materials-ecology}} = \left( CO_{2\text{production}} + CO_{2\text{transportation}} + CO_{2\text{constr.}} \right) \quad (2)$$

Parameters are expressed as  $PS_{\text{materials-ecology}}$ : Ecologic penalty score of building materials,  $CO_{2\text{production}}$ : Material production carbon emissions,  $CO_{2\text{transportation}}$ : Material transportation carbon emissions, and  $CO_{2\text{construction}}$ : Material implementation carbon emissions. Cost and carbon emission values at each phase of the simplified LCA method are calculated on the basis of unit material, and the functional unit is determined as square meters (m<sup>2</sup>).

#### 4. CONCLUSION AND SUGGESTIONS

In this paper, a simplified LCA approach for environmental impact assessment of building materials is suggested. This approach focuses on production, transportation and construction phases and facilitates total cost and carbon emission comparisons of building materials. It is concluded that the proposed approach can utilize in a decision support system which enables LCA based decision support for architects and construction managers during both design and construction phases of projects. It also enables cost and carbon emission reduction during production, transportation and application stages of building materials. GSCM in construction is a featured research field which needs to be contributed. Besides, the proposed approach is open to being developed and integrated with another decision support models. Because there is a huge gap in the literature on GSCM in construction, it is suggested to deepen researches on this field. As a conclusion, simplified LCA should be employed in more sophisticated decision support systems which provides economy and ecology optimisation.

#### REFERENCES

- Azapagic, A. (1999) life cycle assessment and its application to process selection, design and optimisation, *Chemical Engineering Journal*, 73, 1-21.
- Carter, C.R., Rogers, D.S. (2008), A framework of sustainable supply chain management: moving toward new theory, *International Journal of Physical Distribution & Logistics Management*, Vol. 38 No. 5, 360-387.
- Cooper J.S., Fava J. (2006). Life Cycle Assessment Practitioner Survey: Summary of Results, *Journal of Industrial Ecology*, 10(4), 12 -14.

- Demirer G, N. (2011). Yaşam Döngüsü Analizi, Çevre ve Şehircilik Bakanlığı Sürdürülebilir Üretim ve Tüketim Yayınları – I, [http://www.rec.org.tr/dyn\\_files/20/5928-I-YASAM-DONGUSU-ANALIZI.pdf](http://www.rec.org.tr/dyn_files/20/5928-I-YASAM-DONGUSU-ANALIZI.pdf) (In Turkish) (25.10.2018).
- EPA, (1995). Guidelines for Assessing the Quality of Life-Cycle Inventory Analysis, [nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=10000VPN.TXT](http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=10000VPN.TXT). (26.10.2018)
- Fu, F., Luo, H., Zhong, H., Hill, Andrew. (2014). Development of a Carbon Emission Calculations System for Optimizing Building Plan Based on the LCA Framework, *Mathematical Problems in Engineering*, 2014, 1-13.
- Günaydın, G. (2011). Sürdürülebilirlik kapsamında çevresel ürün bildirelerinin yapı sektöründe uygulanması: Türkiye için öneri, MSc Thesis, Istanbul Technical University (In Turkish)
- Khasreen, M. M., Banfill, P. F. G., Menzies, G. F. (2009). Life-Cycle Assessment and the Environmental Impact of Buildings: A Review, *Sustainability*, 1, 674-704.
- ISO 14040. (2006). Environmental management — Life cycle assessment — Principles and framework, [http://www.pqm-online.com/assets/files/lib/std/iso\\_14040-2006.pdf](http://www.pqm-online.com/assets/files/lib/std/iso_14040-2006.pdf) (25.10.2018)
- Srivastava, S.K. (2007). Green supply-chain management: A state-of-the-art literature review, *International Journal of Management Reviews*, 9 (1) 53-80.

## Reintegrating Manufacturing into Corporate Strategy

Árpád Duczon<sup>1</sup>

### Abstract

During the industrial revolution, mass production based on the Taylor manufacturing paradigm became dominant. Starting in the 1970s, dynamic production technologies based on Toyota's production system, such as just-in-time and lean manufacturing, became increasingly more popular. Their distinct advantage was that they increased operating efficiency and improved the utilisation of resources.

Improving operating efficiency, however, proved to only be a temporary source of competitive advantage, a valuable resource with a short lifetime. Innovations in production are ultimately short-term, as competitors rapidly replicate it. This resulted in a competition between manufacturers that pushed production technology to the limit.

As production reached this limit, strategy necessarily evolved to depend less on the product. Strategic positioning, dynamic strategies and vertical integration became more important. Meanwhile, production was outsourced due to its diminishing added value.

The result of this outsourcing was that companies lost the very same core competencies that originally allowed them to develop manufacturing that could supply a product capable of competing on the world market and that fuelled innovation.

Since strategy is a collection of interlocked activities that strengthen one another, removing one of these activities breaks the entire chain. Losing the manufacturing capability, then, endangers the entire corporate strategy. Despite the value having moved downstream, companies must keep manufacturing in-house and treat it as an integral part of the strategy.

The industrial commons are a critical mass of buyers, sellers and highly educated workforce concentrated in a geographical area. Due to outsourcing, these industrial commons collapsed. This means that reintroducing production and reacquiring lost skills will be a much more difficult task than the outsourcing itself originally was. Still, I will argue that this is necessary in order to reintegrate manufacturing into the formulation of a corporation's strategy.

**Keywords:** Outsourcing, Manufacturing, Strategy, Innovation, Industrial commons

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## 1. INTRODUCTION

This paper aims to present how outsourcing emerged as a common practice in production, and how it makes developing a coherent corporate strategy difficult.

The first structural unit of the study is a historical overview of the steps that ultimately led to the spread of outsourcing practices. This section does not specifically aim at providing an extensive overview of the transformation of the role of production since the industrial revolution, but rather demonstrating that the succession of rational, well-considered, logical steps has ultimately led to a practice that is against the best interest of a company itself.

The second major structural unit intends to demonstrate exactly why outsourcing production is against the company's interest. What are the main areas where this practice has such harmful consequences that it jeopardises the company's core business in the long term? I will argue that these main areas are innovation and strategic dynamism. However, the negative effects of outsourcing go beyond the company and endanger the entire industry within a particular geographic unit. When presenting this final thought, I will also highlight why it is much more difficult to reverse this process than it was initiated.

In my view, the historical overview and addressing the issue of the negative consequences of outsourcing is essential for demonstrating that outsourcing is a tool that can help to cut the cost of a company, but a commitment to it must be a strategic decision that goes far beyond a simple profitability analysis.

## 2. HISTORICAL OVERVIEW

This chapter aims to show how the role of production in corporate strategy has evolved. In my study, the strategy, based on the views of Pisano (2015), is interpreted that it is a commitment to coherent, mutually strengthening methods and forms of behaviour that aim at achieving a particular competitive objective.

Alternatively, once a strategic goal has been identified, it is necessary to review each activity of the company to see whether they help to achieve this goal. In case it is not confirmed, the activity concerned needs to be strictly reconsidered.

### 2.1. The Taylor paradigm

During the Industrial Revolution, the so-called Taylor paradigm emerged in production, resulting in the United States becoming a dominant industrial power by the 1920s. Since the strategy was focusing on the product (Dawar, 2013), it was difficult to separate the production strategy from the strategy of the company, as it more or less defined it. If during this period the company's production strategy is interpreted as the strategy of the whole company, then, in my opinion, the Taylor paradigm is a coherent strategy according to Pisano (2015).

Its purpose was obviously to maximize profits through mass production. To this end, all production activities were restructured. The tasks were divided into small parts to perform tasks with a specialized tool so that it could be performed without being fully aware of the entire workflow. Skilled people were removed from physical work; their primary task was to organise production. One of the biggest drawbacks of mass production is that production would have stopped in case of any shortage, therefore, in order to make up for fluctuating supply, companies held large stocks of raw materials in that era. One of the key elements of the system was that holding large stocks and having a certain number of rejects in the production was considered inevitable (Hayes and Pisano, 1994).

## **2.2. Lean**

In the 1950s Toyota developed its revolutionary production system, the Toyota Manufacturing System (Mishina and Takeda, 1992). Lean manufacturing (Hayes and Pisano, 1994) emerged from this system, which, in the 1970s, became a major competitor to the American industry which was essentially still based on the Taylor paradigm, and it challenged the basic idea of keeping large stocks of raw material and having a certain amount of rejects is inevitable.

The underlying idea of lean manufacturing, on the other hand, is that waste is unacceptable. (Hayes and Pisano, 1994). Rejects, or unnecessary stocks or an excessive amount of raw material, of course, are considered such waste. In more detail, inventories or unnecessary movement of people between production lines, are also considered wasteful. Thus this excess time has to be cut down. Specialised production tools are not desirable, as they are not utilised in all manufacturing processes. Untapped knowledge is also considered as waste. As a result, the general expertise of workers is much greater compared to the Taylor system, and communication is more direct.

The biggest advantage of Lean Manufacturing was that it boasted much greater operational efficiency. Porter (1996) defined operational efficiency as performing tasks *similar* to those of a competitor's *better*. Seeing the better results, companies in the United States set the goal of introducing the Japanese system into production often associated with daring development goals.

Investing in the development of production was a temporary competitive advantage, as competitors also introduced or copied these developments. Further improvements were limited by the fact that, as operational efficiency increased, it began to reach the technological constraints of the period. In the end, there was a need for a different approach, and in the 1990s Porter's (1996) strategic positioning became the basis for competitive advantage.

## **2.3. Strategic Position**

As technological constraints, especially in the United States, began to affect operational efficiency, the focus of corporate strategy inevitably shifted from further optimisation of production to strategic positioning (Porter, 1996).

If operational efficiency means that a company performs tasks *similar* to those of a competitor's *better*, strategic positioning means that a company performs tasks *different* from its competitors. This means that, unlike operational efficiency, it does not try to do everything better than a competitor, but wants to create values in some other areas instead. This differentiation is the base for competitive advantage.

The goal of strategic positioning for a company, therefore, is to target a part of the entire population and satisfy the needs of this consumer group better than a fully-marketed product could satisfy it, or better than a competitor's product satisfies it. The economic consideration behind this is that although there are fewer consumers in the narrower market who generated demand, however, products that are tailored to their needs are more valued by them. Thus higher prices can be charged. The higher price collected from fewer consumers may ultimately result in higher profits.

The age, gender, marital status, world view, geographical location, habits, disposable income or some combination of them can all be considered when a consumer group is created. Some further aspects can be easily found whereby the population can be divided into sections, but that is not the purpose of this study. The lesson to be learned is that mass market production was to target all consumers, lean manufacturing attempted to create a competitive edge by reducing cost structure, while strategic positioning aimed at targeting a certain part of the consumers to have a competitive advantage.

This kind of strategic positioning increases the utility of consumers, on the one hand, and on the other hand, it reduces competition between companies, as while they compete within an industry, they can be regarded as competing in a monopolistic position based on their market position.

Accordingly, instead of focusing on the product orientation of the Taylor paradigm and or on efficiency like in lean manufacturing, the central issue of strategic positioning is which a specific consumer group is targeted by the company, how to adjust all its activities to serve this consumer group's needs, how to strengthen this strategic position and protect it from potential competitors.

#### **2.4. Dynamism**

However, in the 2000s, strategic positioning was not enough. For example, Siebel Systems' strategy was built on targeting a narrow market segment in the software development market. At the time when the company was created, background office applications such as SAP or PeopleSoft emerged. While these programs primarily helped the company's financial, accounting, manufacturing organisation and distribution tasks, Siebel Systems developed software specialised for sales, consumer information and marketing, and related software. (Simons - Dávila, 2013). This is a typically static strategy based on a strong strategic position, and Siebel performed well in the 1990s, reaching revenue of \$ 1 billion (Simons and Dávilla, 2013) in merely seven years.

Later, however, this static strategy could not respond efficiently to the rapidly changing market conditions. Since the 2000s, the company's profits had been steadily declining, and despite its stable strategic position it collapsed in 2005, and its competitor, Oracle, acquired it.

Nowadays dynamic competition strategy and ability-based competition are decisive (Stalk, Evans and Shulman, 1992), which emphasises the acquired abilities of the company rather than a firm strategic position. These capabilities enable the company to quickly change its strategic position even in a changing economic environment and to readjust its acquired capabilities to perform a new task.

Integrating goods into services (Sawhney, 2016) and the acquisition of companies closer to the consumer in the value chain, vertical integration, have become dominant strategies (Wise-Baumgartner, 1999). The main issue for companies was which customer needs they could serve rather than what else they could still sell (Dawar, 2013). Meanwhile, the strategic role of production has diminished.

## **2.5. On outsourcing**

The primary reason for outsourcing is that companies do not consider production and its organisation as valuable resources.

A resource is valuable if it is difficult to imitate, durable, appropriable, difficult to substitute, and better than that of the competitors'. (Collis and Montgomery, 1995).

Copying of patents or permissions is forbidden, so they immediately comply with the requirement of something difficult to imitate. However, not only those resources are difficult to imitate where copying is prohibited by law. Something that accumulates at a company over some time, such as a familiar atmosphere or employees' experience in performing a task can also make a valuable, difficult-to-imitate resource.

A fundamentally quickly amortising raw material or product, for example, food, cannot be considered durable. However, there can easily be durable resources in the industry, for example, the recipe whereby certain foods were made on.

A resource is valuable only if it can be appropriated. For example, a property at a good location can be a valuable resource for a company because other companies may be excluded from using it. However, resources such as electricity or infrastructure, although they are of the utmost importance, can also be used by competitors, so they do not create a competitive advantage for the company.

The value of a resource will cease to exist if it is replaced by another similar or better resource, for example, if the same product can be manufactured from cheaper material. Collis and Montgomery (1995) cite the story of the steel industry, which suffered a huge loss when manufacturers started to produce several of its major products from the substitute aluminium.

If each of two companies has a well-defined, valuable resource that complies with the above criteria, then it is up to the competition to decide which of the two valuable resources is more valuable.

According to Collis and Montgomery (1995), the innovation system of a production system is not a valuable resource, since it is easy to copy and therefore is not explicitly durable. Increased profits resulting from improved cost structure can only be temporarily exploited since after the innovations have been copied, price competition between competitors is pushing down the price according to the new cost. This type of innovation, therefore, is a valuable resource in the short run only. Accordingly, most companies do not handle this as such. This creates the grounds for outsourcing as a means for improving cost structure.

Similarly, companies do not consider good managers, who are responsible for day-to-day operations, valuable assets, despite the fact that, according to Sadun, Bloom and Reenen (2017), under the guidance of a good manager, a company can grow on average 25% faster and achieve 75% more productivity.

The path of development outlined, the shift of value on the value chain from production towards the consumer, the continued decline in the value added of the product, and the shift of the focus of strategy from a well-defined static market segment to a dynamic, capability-led management resulted in that, in order to improve the cost structure, companies outsourced production (Pisano - Shih, 2012). Nowadays, not even the Far East is a suitable target; even cheap Chinese labour is not cheap enough for companies that keep close and tense track of their profitability, and the focus of outsourcing is shifting from the Far East to Africa (Sun, 2017).

### **3. THE NEGATIVE EFFECTS OF OUTSOURCING**

In investment decisions, profitability is one of the *most important* aspects, but in the course of the tense competition, as result of the processes above it has become the *only* criterion (Pisano and Shih, 2012). Outsourcing, assuming that it is accomplished competently, is almost always financially profitable. Wage costs far outweigh the low transport costs. Moving the production line as a one-off cost can be easily rationalised in the short term. In this part of the paper, I argue that this profitability analysis needs to be supplemented with some costs that are difficult to measure or are far too long-term to measure them correctly. These costs are the loss of innovation capacity, the erosion of organised and accumulated production knowledge and the resulting difficulty in developing a coherent strategy.

#### **3.1. The impact of outsourcing on innovation**

Pisano and Shih (2015) distinguish technological innovation from changing business activities. Both are suitable for giving a competitive advantage to a particular company.

While iPhone as a product is a technological innovation, Uber's innovation in personal transportation is based on a change in business activity rather than a major



technological development. Pisano and Shih (2015) also point out that these two types of innovation can be associated with each other, and can even be realized at the same time, or there may be innovations where neither business activities nor technology goes through a spectacular change.

**Table 1.:** Types of Innovation.

	WITH EXISTING TECHNOLOGY	WITH NEW TECHNOLOGY
BY CREATING NEW BUSINESS ACTIVITIES	Disruptive	Architectural
BY UTILISING EXISTING BUSINESS ACTIVITIES	Routine	Radical

**Source:** Pisano; 2015: 47.

Accordingly, a matrix can be drawn whereby the elements can help determine the fact whether a company is working with existing or new technology or with existing or new business activity. According to this, Pisano (2015) would characterize the emergence of iPhone as a radical innovation as a new technology was sold by the developer Apple with a similar distribution chain to that of the existing one on the existing handset market, while Uber's expansion into passenger transportation, as it does not involve new technology only a changed business activity, Pisano (2015) would call it disruptive innovation.

Innovation is considered architectural if both new technology and a new business activity associated with it are present. For example, the spread of digital cameras was an architectural innovation. On the one hand, new technology was introduced, on the market and the other hand, the business activity had to be modified as companies earlier had realised most of their profits from the sale of photo papers and film as well as from the development of the exposures.

Finally, innovation is considered routine if the change in technology is not large-scale and business activity does not change considerably. Typically, routine innovation is an incremental development of a former radical innovation, for example, launching newer generations of the iPhone above on the market.

During innovation, manufacturing and design processes must be close to one another, as they require rapid and frequent communication with each other, and both the product and its production process are immature (Pisano and Shih, 2012). If this is true, outsourcing makes innovation fundamentally based on new technology, such as architectural or radical innovation, impossible. In the absence of this, the company is forced to rely on routine or disruptive innovations.

However, in the absence of a new product, routine innovation will sooner or later expire and will set the company on a strategy of copying as it cannot make the necessary

technological change. Pisano and Shih (2012) argue that routine innovation is the only thing that not only can be outsourced but is to be outsourced. As the processes are mature and the product and manufacturing can easily be separated, therefore, outsourcing is the most logical in this case.

Ultimately, outsourcing will make radical and architectural innovation based on new technology impossible. If the product is already in the routine innovation stage, Pisano and Shih (2012) suggest outsourcing anyway. The only remaining type of innovation is a disruptive innovation. This can help gain a large market share; however, after achieving it, it is a mistaken decision to leave a competitor to dictate the pace of the market with technological innovations. For example, Uber, while it became successful thanks to disruptive innovation, has invested relatively large amounts of capital in self-driving technology.

Outsourcing of production essentially makes implementing large-scale, architectural and radical innovation impossible, as it is vital for some innovation activities to involve production. According to Pisano and Shih (2012) outsourcing, is a good decision when, on the one hand, the production process is well-developed, on the other hand, the production and design of the product can easily be separated. In these cases, however, it must be borne in mind that this type of outsourcing, basically, makes the company pursue incremental, routine innovation, and it will lose its ability to carry out architectural and radical innovation.

### **3.2. The impact of outsourcing on corporate strategy**

Nowadays, most companies consider production as something that cannot create value for the company beyond fulfilling its simple tasks (Wheelwright and Hayes, 1985). Accordingly, the corporate management does not focus on production and even actively forbids its innovative ideas. This attitude will result in a false judgment of values at outsourcing. Since production does not create value, its cost must be reduced to the minimum.

Based on Pisano (2015), I interpreted the strategy as a dedication to a set of coherent, mutually strengthening procedures and behaviours which aims at achieving a particular competitive objective. According to Stalk et al. (1992), the company's acquired capabilities are of utmost importance; the strategy must be dynamic and ready to group its activities around a new objective. By Pisano and Shih (2012), outsourcing increases the inertia of manufacturing and distances it from the management of the company. The question arises from these three statements: How can a company respond dynamically to changing market conditions if it has released production from its management and thus it cannot make it serve a dynamically changing strategic goal?

Corporate strategy cannot be successful if the adaptation of production and its active participation in this strategy is prohibited by the company, or through outsourcing, the company has reduced its influence on production and lost its competence in this area.

For this reason, I argue that management has to keep production in corporate hands and provide it with the capabilities that will help it adapt quickly to the company's strategy. Even if the value shifted down on the value chain (Wise and Baumgartner, 1999), and added value of production is, in fact, small, without this competence, production will be a dead weight for the company, and it undermines its dynamism and responsiveness which would be necessary for the competition.

### **3.3. The collapse of commons**

A common counter-argument is that the negative effects of outsourcing listed above are not particularly worrying. If quality begins to deteriorate, if some large-scale technological advance occurs again, or if the company's strategy requires so, it can be easily re-organised.

Putting aside the above doubts about how an outsourced company that lost its capabilities can execute large-scale innovation activities and produce high-quality products or implement its corporate strategy immediately after insourcing, Pisano and Shih (2009) highlight further problems, that is the loss of industrial commons.

In Pisano and Shih (2009) industrial commons refer to the critical mass of suppliers, buyers and skilled labour in a geographic area. Industrial common develops because a company attracts suppliers and skilled workers to itself within a certain area, so when a competitor enters this market, it is also a logical step to settle in this area and tap the competitor's resources. Accordingly, the growing demand from the companies attracts more skilled labour and suppliers to the neighbourhood. Later universities training professionals can also settle in this area. It can be seen how this self-strengthening process gains momentum.

From the process of evolvement, it is also possible to see why outsourcing goes beyond a company. As a result of outsourcing, the above process stops or even reverses. When companies leave, suppliers and skilled workers move on. The decline in job supply. The increase in negotiating power of suppliers alters the cost structure of competitors (Porter, 2008 [1979]). This may be an additional incentive for these companies to outsource, too. The same way as the development of the industrial common, its collapse is also a self-strengthening process.

This idea gives some additional colour to the rejection of the above arguments with the idea of insourcing. A company that wishes to insource can easily find itself in a situation where, production, functioning very well before outsourcing, faces skilled workforce issues after insourcing, as the area concerned is not able to provide enough highly skilled workforce, and its customers and suppliers have also outsourced their activities, moved away and settled elsewhere or gone bankrupt. Of course, outsourcing a company does not immediately ruin industrial common. However, the outsourcing of high enough number of companies can eventually trigger this process.

#### 4. CONCLUSION

In the course of the historical review, I presented how Taylor's mass production was transformed by increased operational efficiency. How strategic positioning became decisive when technology reached its limits, and how a fundamentally dynamic strategy emerged, gathering capabilities specifically to handle changing market conditions that can quickly serve a new strategic goal.

The aim of this historical review was to show that the path to the development of corporate production came to the point that in the long run makes it difficult or impossible to pursue successful corporate strategy and also to show that outsourcing evolved from a chain of logical steps, however, it does not necessarily mean at all that this practice is always the best choice.

Short-term profitability of outsourcing can be a legitimate source of competitive advantage. However, I have presented three major negative consequences: the loss of innovation capacity, the degradation of industrial common and the difficulty of strategic implementation. As a consequence of outsourcing, companies have lost their central competence that made it possible for them to produce a competitive product on the world market in the past.

Financial estimation of these negative consequences is relatively difficult. How does a company account its innovation capability? How could it argue for retaining its innovation capability or strategic dynamism when executives supporting outsourcing can demonstrate with accuracy that the costs will be reduced?

Nevertheless, I think that the difficulty of estimating does not justify the complete omission of these considerations from decisions, and they are essential for long-term corporate planning. That is why, in my opinion, it is necessary to make efforts to insource production. Reintroduction of production and recovering lost capabilities is a much more challenging task than outsourcing, but it is necessary for manufacturing to become a useful asset again in the development of corporate strategy.

#### REFERENCES

- Collis, D. & Montgomery, C. A. (1995). Competing on Resources: Strategy in the 1990s. *Harvard Business Review* 73(7), 118 – 128.
- Dawar, N. (2013). When marketing is the strategy: Why you must shift your strategy downstream, from products to customer. *Harvard Business Review*, 91(12), 101 – 108.
- Hayes, R. H. & Pisano, G. P. (1994). Beyond World-Class: The New Manufacturing Strategy. *Harvard Business Review*, 72(1), 77 – 88.
- Mishina, K. & Takeda, K. (1992). Toyota Motor Manufacturing, U.S.A., Inc. *Harvard Business School*.

- Pisano, G. P. & Shih, W. C. (2009). Restoring American Competitiveness. *Harvard Business Review*, 87(7 – 8).
- Pisano, G. P. & Shih, W. C. (2012). Does America Need Manufacturing? *Harvard Business Review*, 90(3), 94 – 103.
- Pisano, G. P. (2015): You Need an Innovation Strategy. *Harvard Business Review*, 93(6), 44 – 54.
- Porter, M. E. (1996): What is the strategy? *Harvard Business Review*, 74(11), 61 – 78.
- Sadun, R. & Bloom, N. & Reenen, J. V. (2017). Why Do We Undervalue Competent Management? *Harvard Business Review*, 95(5), 120 – 127.
- Sawhney, M. (2016). Putting Products into Services. *Harvard Business Review*, 94(9), 82 – 89.
- Simons, R. & Dávila A. (2013). *Siebel Systems: Organizing for the Customer*.
- Stalk, G. & Evans, P. & Shulman, L. E. (1992). Competing on Capabilities: The New Rules of Corporate Strategy. *Harvard Business Review*, 70(3 – 4), 56 – 68.
- Sun, I. Y. (2017). *The World's Next Great Manufacturing Center*.
- Wheelwright, S. C. & Hayes, R. H. (1985). Competing Through Manufacturing. *Harvard Business Review*, 63(1).
- Wise, R. & Baumgartner, P. (1999). Go Downstream: The New Profit Imperative in Manufacturing. *Harvard Business Review*, 87(9 – 10).

## **Importance of Sports in Migration and Integration Policies**

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### **Abstract**

Sport can be an effective tool in the social integration of migrants. The concept of migration begins with the history of humanity. Migration movements continue to increase based on many factors, such as changing industrial production methods, increasing transportation and communication possibilities, globalisation, wars and social crises. Migration can be a choice for salvation for people who prefer immigration so they can escape problems and difficulties. Nonetheless, immigration separates the person from his or her family, friends, relationships, social context, profession, language, clothes, and ultimately their social role.

In this sense, as 'others', refugees affect not only the person who abandons his or her country but also the target country and its citizens. In other words, this problem is a problem for all people. The problem of refugees and migration affects international peace, stability and security. Therefore, policies should be developed to solve the problem.

States accept immigrants for various reasons and apply different integration policies to them. Integration is a two-sided process in which refugees adapt to their host community without giving up their cultural identity, while the host community accept the refugees within their cultural institutions to meet their needs. In this study, the place of sport is analysed based on the literature in order to show how immigrants can contribute to cultural and social structures without discrimination.

**Keywords:** Migration, Integration, Sport

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## **1. INTRODUCTION**

States accept immigrants for various reasons and implement different migration/integration policies. As explained in theories of migration, it is possible for states to strengthen their economies (centre-environment theory) and occasionally open doors to migrants due to historical ties. In some cases, migrant/refugee/asylum seekers are accepted for compulsory humanitarian reasons. Notably, the reasons for accepting migrants/refugees are decisive in the formation and implementation of compliance and integration policies.

In this context, migration and adaptation include migrants becoming accustomed to their new society and not experiencing discrimination. Thus, becoming a member of society can be expressed as the ultimate goal of the adaptation process, which is directly related to the causes of migration. Immigrants who are invited to close the labour force gap in a country cannot be compared to migrants who took refuge from the war via the same data and concepts.

In this study, adaptation and migration issues will be examined through samples of temporarily protected Syrians coming to Turkey.

## **2. THE CONCEPTUAL FRAMEWORK OF MIGRATION AND COMPLIANCE POLICIES**

One of the most commonly accepted definitions of compliance was adopted by the United Nations High Commissioner for Refugees (UNHCR). The UNHCR considers compliance a dynamic, multifaceted and bilateral operation with three interrelated dimensions: legal, economic and socio-cultural. Compliance is bilateral in that refugees adapt to their host community without abandoning their cultural identity and that the host community meets the needs of refugees as well as their institutions. Adaptation, culture, school, education and entry into a profession make it possible for individuals or (ethnic) groups to participate in all fields (Çağlar and Onay, 2015: 48). The issue of compliance must be addressed in all dimensions, although the long-term effects of the policies and approaches that are developed in one dimension are limited. For example, when an approach that focuses on the economic and legal aspects of an issue does not adequately consider the human dimension, problems may result in the socio-economic, socio-cultural and socio-psychological adaptations of migrant/refugee individuals (Türker and Yıldız, 2015: 24).

Sharing economic resources can lead to the development of discriminatory and exclusionist attitudes towards migrants/refugees, who find themselves in a new environment after having left their homeland, friends and memories. Trauma, stress and depression may have negative psychological consequences. In contrast to voluntary migration, uncertainty is common.

### **3. MIGRATION AND INTEGRATION POLICIES**

Migration can be either compulsory or voluntary. Forced migrations can occur individually. However, they mainly occur as mass migrations and refugee flows. The most important reasons for the influx of refugees are internal conflicts and repressive regimes. There have been repressive regimes in different periods of world history and in different regions that have incited wars and conflicts to create 'winning' and 'losing' parties. For the losers, migration is often a necessity.

Therefore, there is a social acceptance and adoption process. This process is not automatic and painless, as discussed in the harmonisation and acculturation sections. Migrants are often viewed in connection with increased crime rates; hence, they are considered a source of insecurity and fear in society and are called 'the other in daily life' (Saçan-Cizdan and Tabak, 2017: 30). Therefore, there is a need for perspectives that can be summarised as "human rights oriented" rather than "security-oriented" perspective (Ekşi, 2015: 134).

Refugee/immigrant groups that are in the process of harmonisation and acculturation must undergo a two-fold socialisation process to adapt to society. For this reason, compliance programmes are prepared for immigrants (Tekin, 2007: 49). For the last 20 years, prejudice, fear and hatred towards refugees and asylum seekers have been increasing in Western societies. The arrival of the migrants is considered as the "invasion of the poor" "the attack to Europe". Migrants are not required with economic, social, political and cultural arguments as a result of immigration flows, where the wages will fall, the social system will collapse, and the national identity will be at risk (Deniz, 2014: 179).

### **4. THE IMPORTANCE OF SPORTS IN MIGRATION AND INTEGRATION POLICIES**

Sports are physical activities that human beings engage in to stay healthy, have fun and socialise. They ensure that a person can maintain his/her life in a more qualified and balanced way; it is a thought that sports activities, together with cultural activities, prepare individuals psychologically for daily life (Dağlı-Ekmekçi; Ekmekçi & İrmiş, 2013: 95).

Sports activities are also closely related to the socio-economic structure of societies. Although the examination of sports as a social phenomenon is recent, archaeological findings and written documents show that it has been an important activity since the earliest days. There are many types of sports in history, from ritual celebrations to entertainment and defence types. Within social life, sports contribute to the production and dissemination of culture, which is a system of symbols that are used in the establishment of sovereign ideology and the provision of social consent (Dağlı-Ekmekçi; Ekmekçi & İrmiş, 2013: 91). In this sense, sports represent a social institution that is vital to social structure. Social institutions evolve outside the individual, compel him/her to behave in a certain way and change with his/her nature and rules. Law, ethics, family,



education, fashion, music, architecture, sculpture, painting, customs, agriculture, science-technology, press-publishing and sports are among the many social institutions (Talmiciler, 2008: Dağlı-Ekmekçi from Bread: Breader & Irmiş, 2013: 92).

Sports as a social institution is today's most established, widespread and popular field of activity and development. As such, it has its tourism, education, clothing, health, transportation, architecture and economy. Also, sport provides an important opportunity for underdeveloped countries to develop and for people to jump classes (Yazıcı, 2014: 396).

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Also, sports involve one of the most intense areas of interpersonal communication; empathy, friendship-centred competition and winning come into play (Bayraktar; Tozoğlu & Öztürk, 2015, 74). Per a study by Tozoğlu & Öztürk (2015), which was conducted with high school students, sports have a positive effect on the ability of young people to develop empathy. Therefore, policies should be put in place to encourage students to participate in sports and to benefit from sports facilities.

As indispensable social activities, sports bring people together to spectate and have fun. They also attract the attention of societies, influence large masses and contribute to world peace by developing international relations. Also, sports improve the mental health of participants via increasing physical health, building self-confidence and encouraging socialisation through team spirit (Balci, 2013: 193).

Sports not only involve physical activity but stimulate socialisation and social adaptation. Integration through sports can make it easier to adapt to society, regardless of social status, race, gender and age. They also have the power to make individuals into team members of a family, neighbourhood, city and nation (Koç & Küçük, 2004: 134, cited in Selvi & Altan, 2014: 138). Therefore, using the functions of sports for individuals during the process of migration and adaptation will enable the emergence of successful adaptation policies.

**Table.** Functions of Sports for the Individual, Society and Development

Individual	Society	Development
<ul style="list-style-type: none"> <li>• Body health</li> <li>• Mental health</li> <li>• Mental development</li> <li>• Moral development</li> <li>• Personality development</li> </ul>	<ul style="list-style-type: none"> <li>• Talent</li> <li>• Personality</li> <li>• Ethics</li> <li>• Leadership</li> <li>• Socialisation</li> <li>• Sharing</li> </ul>	<ul style="list-style-type: none"> <li>• Economic progress</li> <li>• Environment</li> </ul>

<ul style="list-style-type: none"><li>• Continuation</li><li>• Trust in oneself</li><li>• Socialisation</li><li>• Perception development</li><li>• Ownership of status</li></ul>	<ul style="list-style-type: none"><li>• Solidarity</li><li>• Competition</li><li>• Cultural development</li><li>• Social equity</li></ul>	
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Source YAZICI, 2014.

In 2011, Turkey established Syrian training camps with induced mass migration services, which are carried out by Turkish and Syrian teachers. There are several courses offered by adult sports fields and public education directorates (Ağır & Sezik, 2015).

## 5. CONCLUSION

Compliance and social acceptance are generally considered to go together. It is vital for people who must move to a new country or region to adapt to and integrate into their society, which can be supported by assistance from local people and governments. In this context, various policies must be developed and implemented, according to the type and nature of migration. Primary tools could be sports migration and cohesion policies that have integrative, adaptive and integrative structures.

Especially after 2011 people from Turkey to Syria orientation induced mass migration sports results and adapt to new situations, especially regarding compliance breaches and society regarding children should be used as an effective means absolute.

## REFERENCES

- Ağır, O. & Sezik, M. (2015). Suriye'den Türkiye'ye Yaşanan Göç Dalgasından Kaynaklanan Güvenlik Sorunları, *Birey ve Toplum*, 5(9), 95-123.
- Balcı, V. (2013). Çalışan Sporcular. T. Çağlar (Ed.), *Ankara Barosu Spor Hukuku Kurulu Av. Ömer Remzi Arıkan Armağanı* içinde (191-201). Ankara: Mattek Matbaacılık.
- Bayraktar, G.; Tozoğlu, E. & Öztürk, M. E. (2015). Spora katılan ve katılmayan lise öğrencilerinin empatik eğilimlerinin incelenmesi, *Uluslararası Hakemli Akademik Spor Sağlık ve Tıp Bilimleri Dergisi*, 5(16), 72-87.
- Çağlar, A. & Onay, A. (2015). Entegrasyon/uyum: kavramsal ve yapısal bir analiz. İçinde B. D. Şeker; İ. Sirkeci & M. M. Yüceşahin (Eds.), *Göç ve Uyum* (ss. 33-64). London: Transnational Press.
- Dağlı-Ekmekçi, Y. A.; Ekmekçi, R. & İrmiş, A. (2013). Küreselleşme ve Spor Endüstrisi, *Pamukkale Journal of Sport Sciences*, 4(1), 91-117.
- Deniz, T. (2014). Uluslararası göç sorunu perspektifinde Türkiye. *TSA*, 18(1), 175-204.

- Ekşi, B. (2015). Avrupa’da Göç ve mülteci araştırmaları üzerine bir değerlendirme. *Marmara İletişim Dergisi*, 24, 131-137.
- Saçan, S.; Cizdan, G. & Tabak, H. D. (2017). Aydın halkının Suriyeli göçmenlere yönelik bakış açısının incelenmesi, *Adnan Menderes Üniversitesi Sağlık Bilimleri Fakültesi Dergisi*, 1(1), 28-38.
- Selvi, Ö. & Altan, S. (2014). Popüler Kültür ve Spor İlişkisi Üzerine Bir Araştırma, *Erciyes İletişim Dergisi “academia”*, 3(3), 132-143.
- Tekin, U. (2007). Avrupa’ya göç ve Türkiye, *İÜ. Siyasal Bilgiler Fakültesi Dergisi*, N0.37, 43-56.
- Türker, D. & Yıldız, A. (2015). Göçmenlerde sosyo-psikolojik entegrasyon analizi, Betül Dilruba Şeker, İbrahim Sirkeci ve M. Murat Yücesahin (Eds.), *Göç ve Uyum*, içinde (ss. 23-31). London: Transnational Press.
- Yazıcı, A. G. (2014). Toplumsal Dinamizm ve Spor, *Uluslararası Türkçe Edebiyat Kültür ve Eğitim Dergisi*, 3(1), 394-405.



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